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IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF ILLINOIS

CERRO COPPER PRODUCTS	)	
COMPANY,	)	
	)	
Plaintiff,	)	
	)	
vs.	)	No. 92-CV-204-WDS
	)	
MONSANTO COMPANY and	)	
MONSANTO CHEMICAL COMPANY)	)	
	)	
Defendant.	)	

DEPOSITION OF VIRGIL BRAWLEY  
Taken on behalf of Defendant  
February 15, 1995

Reporter: Mary E. Walker, CSR/RPR No. 084-003322

004117

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FOR THE SOUTHERN DISTRICT OF ILLINOIS

CERRO COPPER PRODUCTS )  
COMPANY, )  
Plaintiff, )  
vs. ) No. 92-CV-204-WDS  
MONSANTO COMPANY and )  
MONSANTO CHEMICAL COMPANY )  
Defendant. )

DEPOSITION OF VIRGIL BRAWLEY,  
produced, sworn and examined on behalf of the  
Defendant, February 15, 1995, between the hours of  
eight o'clock in the forenoon and five o'clock in  
the afternoon on that day, at the law offices of  
Coburn & Croft, 120 W. Main Street, Belleville,  
Illinois, before MARY E. WALKER, a Certified  
Shorthand Reporter, Registered Professional  
Reporter, and Notary Public within and for the  
County of Madison, State of Illinois.

A P P E A R A N C E S

The Plaintiff was represented by  
Richard Ricci of the law firm of Lowenstein,  
Sandler, Kohl, Fischer & Boylan, P.O. Box 1113,  
Somerville, New Jersey 08876.

The Defendant was represented by  
Joseph Kellmeyer of the law firm of Coburn & Croft,  
One Mercantile Center, St. Louis, Missouri 63101.

004119

1 IT IS STIPULATED AND AGREED by and  
2 between counsel for Plaintiff and counsel for  
3 Defendant that the deposition of VIRGIL BRAWLEY may  
4 be taken pursuant to Rule 26(a) of the Federal  
5 Rules of Civil Procedures on behalf of the  
6 Defendant on February 15, 1995, at the offices of  
7 Coburn & Croft, 120 W. Main Street, Belleville,  
8 Illinois, before Mary E. Walker, CSR, RPR, a Notary  
9 Public with and for the County of Madison, State of  
10 Illinois.

11 o-o-o

12 VIRGIL BRAWLEY,  
13 of lawful age, being produced, sworn, and examined  
14 on the part of the Defendant, after answering, "I  
15 do" to the oath administered by the court reporter,  
16 deposes and says:

17 EXAMINATION

18 QUESTIONS BY MR. RICCI:

19 Q Good morning, Mr. Brawley. My name  
20 is Rich Ricci and I am an attorney with the law  
21 firm by the name Lowenstein, Sandler representing  
22 the company by the name of Cerro Copper Products  
23 Company in a lawsuit filed by Cerro Copper Products  
24 Company versus Monsanto. And we are here to take  
25 your deposition today. Before we get started, I

004100

1 want to give you a few instructions as to the  
2 ground rules. I'm going to be asking you a series  
3 of questions which you hopefully will answer  
4 truthfully and to the best of your ability. If I  
5 ask you a question and you don't understand it,  
6 please tell me that and I will try and work with  
7 you to make the question understandable so that we  
8 are both on the same wave length. If I ask you a  
9 question and you answer it, we are going to assume  
10 that you understood the question as asked. Okay?

11 A I understand.

12 Q The questions and answers are being  
13 taken down by our court reporter here and they will  
14 ultimately be reproduced in a booklet, called a  
15 transcript, and the transcript of your deposition  
16 can be used in the trial of this matter. So even  
17 though is a somewhat informal setting, you should  
18 really -- or somewhat an informal setting, you  
19 should treat your testimony as if it were given in  
20 court. Do you have a question?

21 A No, I don't.

22 Q If you want to take a break at any  
23 time, just let me know and we will be happy to  
24 accommodate you. We don't want to push you beyond

004121

25 the limit, so whenever you feel the need to take a

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1 break for any reason, just let me know. It will be  
2 helpful if you let me finish my questions before  
3 you give me your answer and I, in turn, will try to  
4 let you finish your answer before I ask the next  
5 question, the reason being that our court reporter  
6 can only take down one of us talking at a time. If  
7 we step on each other's lines, it may make for a  
8 bit of a sloppy transcript.

9 Mr. Brawley, have you ever had your  
10 deposition taken before?

11 A I have not.

12 Q Your first time. What is your  
13 current address?

14 A 17 Baldus, B-a-l-d-u-s, Drive,  
15 Fairview Heights, Illinois.

16 Q Mr. Brawley, are you taking any  
17 medication today that might in any way affect your  
18 ability to testify, or understand my questions, or  
19 anything like that?

20 A I do not take any medication at all.

21 Q Okay. Thank you. Do you have any  
22 other questions before we get into the substance of  
23 this thing?

24 A No, I don't.

004122

25 Q What is your current occupation?

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1 A Retired.

2 Q How long have you been retired?

3 A Nine years.

4 Q Where did you retire from?

5 A Monsanto's Sauget, Illinois, plant.

6 Q That would be the William G.

7 Krummrich plant?

8 A That's right, William G. Krummrich.

9 Q Did you do anything to prepare for  
10 your deposition here today, Mr. Brawley?

11 A Only talked with Joe Kellmeyer.

12 Q Okay. Other than --

13 A And Stacey Stater.

14 Q Okay. Other than conversations with  
15 your counsel, did you do anything?

16 A Such as what?

17 Q Did you look at any documents?

18 A Not on my own I have not.

19 Q Were you provided some documents by  
20 the attorneys to look at?

21 A I have seen some documents.

22 Q Were you provided those documents by  
23 the attorneys?

004133

24 A Yes.

25 Q Do you have any documents on your

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8

1 own relating to your employment with Monsanto?

2 A I do not.

3 Q Did you talk to any present or  
4 former Monsanto employees regarding your testimony  
5 here today or the issues in this lawsuit?

6 A Not in relation to today I have not.

7 Q In relation to any of the issues of  
8 this lawsuit?

9 A No.

10 Q Do you know what this lawsuit is all  
11 about?

12 A Well, let me go back. Last year I  
13 talked to Jack Malloy because I had never been  
14 asked to give a deposition before.

15 Q Uh-huh.

16 A And asked him, that is, Mr. Malloy  
17 if -- if there was anything that he could tell me I  
18 could look forward to or what a deposition is. So  
19 I had talked to Mr. Malloy, who gave me only  
20 instruction -- the instructions he gave me were  
21 just tell them what you remember and tell the  
22 truth. That was all. That was the conversation  
23 that we had.

004124



24 Q Did Mr. Malloy tell you anything  
25 about what the lawsuit was about?

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1 A Well, he -- he had said that it was  
2 in relation to the company representing and  
3 Monsanto in relation to the cleanup of Dead Creek.

4 Q Did he say anything else about the  
5 nature of the lawsuit?

6 A No.

7 Q Are you familiar with Dead Creek?

8 A No, I am not.

9 Q When Mr. Malloy said that the  
10 lawsuit was about the cleanup of Dead Creek, did  
11 you have any idea what he was talking about?

12 A Only I had heard of Dead Creek years  
13 before.

14 Q While you were working?

15 A While I was working.

16 Q I didn't mean to cut you off if you  
17 weren't finished with your answer?

18 A I had just heard of Dead Creek.

19 Q Okay. And you heard of it while you  
20 were an employee of Monsanto?

21 A Yes.

22 Q What did you hear about Dead Creek?

004125

23                   A     Only that there was a creek and it  
24 ran south of the plant.

25                   Q     Anything else?

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1                   A     No. Anything else I had read would  
2 be in the newspaper, that's all.

3                   Q     Were you aware of any connection  
4 between Dead Creek and the village sewer system?

5                   A     No.

6                   Q     Were you ever -- did you ever hear  
7 anything about disposal of wastes or effluent into  
8 Dead Creek other than what you might have read in  
9 the newspapers?

10                  A     No.

11                  Q     Mr. Brawley, how old are you?

12                  A     Sixty-six.

13                  Q     Can you give me your educational  
14 background starting with high school?

15                  A     I completed high school, East  
16 St. Louis Senior High School in 1946. At some  
17 point, I have taken some night courses through SIU.  
18 That is all.

19                  Q     Have you served in the military?

20                  A     Yes.

21                  Q     When was that?

22                  A     June of 1946 until November of 1947.

004126

23 Q Which branch of the military did you  
24 serve in?

25 A Army.

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11

1 Q Were you honorably discharged?

2 A Yes.

3 Q What were the nature of your duties  
4 in the military?

5 A I was in the 82nd Airborne and other  
6 than that I worked in the commissary.

7 Q What did you do after you got out of  
8 the military?

9 A I worked at a cabinet shop for  
10 several -- about six months or so and I worked on  
11 the railroad for three years or so.

12 Q And then?

13 A Then I went to Monsanto -- 1951.

14 Q In 1951 you were hired by Monsanto?

15 A As an operator.

16 Q You say your first position was  
17 operator?

18 A Yes, it was.

19 Q Was that at the Krummrich plant?

20 A Yes.

21 Q Were you an operator in any

004127

22 particular department at the Krummrich plant?  
23 A The department was called santimers.  
24 Q Santimers?  
25 A Santimers. We made soap and powder.

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12

1 Q That was an hourly position?  
2 A Yes, it was.  
3 Q Do you know the department number  
4 for santimers?  
5 A No, I don't.  
6 Q You just don't remember?  
7 A I do not remember.  
8 Q Okay. How long were you an operator  
9 in the santimers department?  
10 A A few months.  
11 Q Do you recall the month that you  
12 hired into Monsanto?  
13 A March.  
14 Q March of 1951?  
15 A Yes.  
16 Q What was the next position -- well,  
17 let me withdraw that. Did you remain an Monsanto  
18 employee from March of '51 until your retirement?  
19 A Yes.  
20 Q Were you at the Krummrich facility  
21 the entire time?

004128

22                   A     The entire time, yes.  
23                   Q     What was the next position that you  
24 held after operator in the santimers department?  
25                   A     Boilermaker helper.

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13

1                   Q     Was that in a particular department  
2 or was that a maintenance department?  
3                   A     That is a maintenance job there.  
4                   Q     Plant-wide maintenance?  
5                   A     Yes.  
6                   Q     How long did you hold that position?  
7                   A     Maybe one year.  
8                   Q     And I understand these dates may be  
9 a little off, if you can just estimate to the best  
10 of your ability, that would be fine.  
11                  A     Maybe a year.  
12                  Q     What was the next position that you  
13 held after boilermaker helper?  
14                  A     Back to being an operator again,  
15 department operator.  
16                  Q     And what department were you in at  
17 that time?  
18                  A     The number was 229.  
19                  Q     Do you recall what was manufactured  
20 in Department 229?

0-4129

21                   A     Caustic.  
22                   Q     Was that also the department that  
23 made chlorine?  
24                   A     It was associated with -- to some  
25 extent with the chlorine department.

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1                   Q     Is that the department or was that  
2 department -- well, let me start again. Are you  
3 familiar with a road that ran through the plant  
4 known as Falling Springs Road?  
5                   A     Yes.  
6                   Q     Was Department 229 located east of  
7 Falling Springs Road?  
8                   A     East of the Falling Springs Road.  
9                   Q     And that was toward the southern end  
10 of the plant?  
11                  A     I always looked at it as being sort  
12 of in the middle.  
13                  Q     In the middle?  
14                  A     Yeah. As opposed to north and  
15 south.  
16                  Q     Okay.  
17                  (Whereupon the Reporter marked Deposition  
18 Exhibit Number 1 for identification as requested.)  
19                  Q     (By Mr. Ricci) Mr. Brawley, in  
20 order to assist you in your testimony, we are going

004137

21 to probably be using a fair number of documents  
22 today. And just so the documents are identified  
23 clearly on the record, we marked them as exhibits  
24 to your deposition. And we have marked a document  
25 here as Brawley Exhibit 1. You are going to hear

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1 me refer from time to time to Bates numbers and  
2 Bates numbers are just numbers that we put on the  
3 documents in the context of the lawsuit so that,  
4 you know, in a case where we have lots of  
5 documents, we can keep track of them.

6 So, Brawley Exhibit 1 is a document  
7 with a Bates number CER 111154. And I would ask  
8 you to take a look at this document, Mr. Brawley,  
9 and just tell me if you can identify what it is?

10 A What the entire document is?

11 Q Yeah, just if you recognize the  
12 document at all. There is a legend down here, too.

13 A Okay. To me this looks like a  
14 layout of our plant.

15 Q The Krummrich plant?

16 A The Krummrich plant.

17 Q Can you identify on Brawley Exhibit  
18 1 the location of Department 229?

19 A I had it.

004131

20 MR. KELLMEYER: Could you state for the  
21 record just what the date is?

22 MR. RICCI: Oh, yeah, this is 1964 W.G.K.  
23 plant -- well, the legend has it as 1964. I think  
24 it has got revisions through 1967.

25 THE WITNESS: Is that 229?

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1 Q (By Mr. Ricci) Well, I can't  
2 really say for sure.

3 A It should be and this should be the  
4 location of 229.

5 Q And that's a building that's labeled  
6 as C-E?

7 A Yes.

8 Q Okay. And that is where you recall  
9 Department 229 was located?

10 A Yes, it is.

11 Q Now, how long were you employed in  
12 Department 229 as an operator?

13 A Probably eight years, something like  
14 that.

15 Q Eight years?

16 A Yes.

17 Q Would that take us up to around  
18 1960?

19 A Something like that, yes.

004132



20 Q Does that sound about right?  
21 A Yes. 1960, '61.  
22 Q What was the next position that you  
23 held at Monsanto?  
24 A Another operator job.  
25 Q Which department?

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1 A Department No. 247.  
2 Q What was manufactured in Department  
3 247?  
4 A I don't know -- I don't recall.  
5 Q You don't recall. How long were you  
6 an operator in Department 247?  
7 A Probably two years.  
8 Q Where did you go from there?  
9 A I was promoted to a foreman  
10 position.  
11 Q In Department 247?  
12 A No, I left Department 247 and -- and  
13 I went -- I then went to the ACL department.  
14 Q So you were promoted to foreman of  
15 the ACL department?  
16 A In the ACL department.  
17 Q Did you then become a salaried  
18 employee?

004133

19 A Yes.  
20 Q How long were you a foreman in the  
21 ACL department?  
22 A Several months.  
23 Q Where did you go from there?  
24 A To the Department 246.  
25 Q What position?

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18

1 A Foreman.  
2 Q How long were you a foreman in  
3 Department 246?  
4 A Until 1974, I believe.  
5 Q Do you recall the date that you  
6 became the foreman in Department 246?  
7 A No.  
8 Q Do you recall the year?  
9 A It would be late '63, early '64,  
10 something like that.  
11 Q What was the product manufactured in  
12 Department 246?  
13 A What we called Aroclors.  
14 Q Aroclors? Are -- is Aroclors a  
15 trade name for PCBs?  
16 A It is.  
17 Q This was your first employment in  
18 Department 246, was it not?

004134

19 A It was.  
20 Q What was the position that you next  
21 held after foreman in Department 246?  
22 A Ask that again differently.  
23 Q Okay. Where did you go from  
24 Department 246?  
25 A After 246 -- oh, I became a

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1 supervisor.  
2 Q In another department?  
3 A Yes.  
4 Q Which department was that?  
5 A Department 276.  
6 Q Do you recall what was manufactured  
7 there?  
8 A Well, we called it ONP,  
9 orthonitrophenol.  
10 Q Was that department located east or  
11 west of Falling Springs Road?  
12 A Yes, sir.  
13 Q Can you identify Department 276 on  
14 the map that we have marked as Exhibit 1 to your  
15 deposition?  
16 A It would be --  
17 Q Okay. This is a --

004135

18                   A     This may be it here, I don't know.  
19                   Q     This is a 1964 map. Do you know  
20 if --  
21                   A     It's probably constructed -- yeah,  
22 it wasn't here. That is the reason.  
23                   Q     It wasn't built yet in 1964?  
24                   A     It was not built. Yeah. The  
25 process probably was built in '73.

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1                   Q     But your recollection is that when  
2 it was built, it was located sort of in the far  
3 eastern tip of the plant?  
4                   A     Extreme east.  
5                   Q     Where was Department 246 located?  
6                   A     It's right -- this is the location  
7 here.  
8                   Q     Okay. And this is an area that the  
9 structure identified as C-R and then 246?  
10                  A     This is it right here.  
11                  Q     Okay. Well --  
12                  A     Not here; this right here.  
13                  Q     Okay. This -- when you say this,  
14 you are pointing to two structures or -- I don't  
15 know, is that two structures or is that one  
16 structure, or is that not a structure at all?  
17                  A     Well, yeah, this would be the office

004136

18 and this is an office and control room. This would  
19 be the drumming station.

20 Q So when you say this would be the  
21 office, that is the area identified as 246?

22 A That's correct.

23 Q And then the drumming area would be  
24 in the area identified as C-R; is that correct?

25 A Yes.

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21

1 Q How long did you remain a supervisor  
2 in Department 276?

3 A Until my retirement in 1985.

4 Q Mr. Brawley, do you currently  
5 receive a pension from Monsanto?

6 A Yes, I do.

7 Q During the time that you were a  
8 foreman in Department 246, did you work turns?

9 MR. KELLMEYER: Objection. What does  
10 "turns" mean?

11 Q (By Mr. Ricci) "Turns", you know,  
12 midnight, afternoon, turns -- did you work shifts  
13 or did you work 9 to 5?

14 A The hours were considered 8 to 4:30.

15 Q Was it a Monday through Friday job?

16 A Supposedly.

004137

17 Q In reality was it?  
18 A In reality it was more hours than --  
19 just more hours.  
20 Q During the time that you were  
21 foreman in Department 246, did that department  
22 operate on a 24-hour-a-day, 7-day-a-week basis?  
23 A Most of the time.  
24 Q When didn't it, either -- not  
25 necessarily by date, but were there events that

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1 caused it not to operate around the clock?  
2 A At some point we went to a 5-day  
3 operation.  
4 Q Do you recall when that was?  
5 A Early '80s, I don't know when.  
6 Q This is Department 246?  
7 A 246. Oh, are you talking about --  
8 let's go back, are we talking 276?  
9 Q No, I was talking Aroclors, 246?  
10 A That's correct.  
11 Q When you were on 5-day operation in  
12 the Aroclor Department, was that Monday through  
13 Friday?  
14 A Yes.  
15 Q What time would you start up on  
16 Monday?

004138

17 A Close to 8 o'clock.

18 Q Now, you testified earlier,  
19 Mr. Brawley, that you were in the Aroclor  
20 Department until around 1974?

21 A Yes.

22 Q And in one of your answers, you said  
23 that you thought it was in the early '80s that  
24 Department 246 went to a 5-day operation. And I'm  
25 just wondering, if you weren't working in the

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1 department at that time how you knew that?

2 A Well, I was working in the  
3 department -- at some point I ran both departments,  
4 276 and 246.

5 Q Was that at around the time that you  
6 first got the promotion as supervisor of 276?

7 A It was some time later.

8 Q During the time that you were  
9 foreman of Department 246, did you gain a knowledge  
10 of the production processes that went on there?

11 A Yes.

12 Q Did you have a fair level of  
13 detailed knowledge about that process?

14 A At that time I did.

15 (Whereupon the Reporter marked Deposition

004139

16 Exhibit Number 2 for identification as requested.)

17 Q (By Mr. Ricci) Mr. Brawley, I'm  
18 going to hand you a document that we have marked as  
19 Exhibit 2 to your deposition. This is a document  
20 the cover sheet of which has Bates number CER  
21 020061. And I will just ask you to take a look at  
22 it.

23 (Whereupon, at this point in the  
24 proceedings an off-the-record discussion was held,  
25 which by direction was not stenographically

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24

1 reported, after which the following proceedings  
2 were conducted:)

3 MR. KELLMEYER: Let's go back on the  
4 record. Just in the interest of clarifying the  
5 record, I think Mr. Brawley wants to clarify  
6 something that he had stated earlier with regard to  
7 the 5-day operation in the Aroclor department.

8 MR. RICCI: Sure, feel free, Mr. Brawley.

9 THE WITNESS: It should be in the early  
10 '70s, not the early '80s. Probably not early maybe  
11 the mid -- maybe mid-'70s.

12 MR. RICCI: As a general rule,  
13 Mr. Brawley, if you feel like something comes to  
14 you after I move on to a different topic, feel free  
15 to go back if you want to clarify an answer. You

000000



16 are not locked in once you give it, if you have a  
17 different recollection.

18 Q (By Mr. Ricci) Mr. Brawley, as you  
19 peruse the document that we have marked as Exhibit  
20 2 to your deposition, do you recognize what that  
21 document is?

22 A Yes, I do.

23 Q What is that?

24 A Standard manufacturing process for  
25 Aroclors.

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1 Q What is a standard manufacturing  
2 process?

3 A This describes various aspects of  
4 raw materials in the -- in the handling of the  
5 materials, the process, the specifications of the  
6 process, the finished goods. It explains in some  
7 detail how to produce Aroclors.

8 Q Did you have occasion to work with  
9 standard manufacturing processes during the times  
10 you were employed at Monsanto?

11 A Yes.

12 Q Were the standard manufacturing  
13 processes sometimes referred to as SMP?

14 A Yes.

0041141

15 Q I may refer to it as SMP in the  
16 course of this deposition, too.

17 A Okay. Tell me again what you mean  
18 by "did I have an opportunity to work with them."

19 Q Did you use them? Did you read  
20 them? Did you look at them?

21 A Yes.

22 Q Did the SMPs generally accurately  
23 describe the production processes that were in  
24 place at the plant?

25 A Yes.

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26

1 Q Were there SMPs for all of the  
2 products that you ever had occasion to work with at  
3 the plant?

4 A I believe there were.

5 Q Now, the document that we have  
6 marked as Exhibit 2 to your deposition has some  
7 amendments at the front of it. Did you have a  
8 chance to see any of those amendments?

9 A I see that they are there.

10 Q What were -- without reference to  
11 the specific amendments, what were the purpose --  
12 what was the purpose of the amendments?

13 A To change -- to make a change in the  
14 SMP.

004142

15 Q Was there a procedure that had to be  
16 followed in order to make a change to the SMP?

17 A Yes.

18 Q Do you recall that procedure?

19 A Not in detail.

20 Q Can you give me your general  
21 recollections of what you recall?

22 A General recollection is that the --  
23 what we call TSD department would recommend a  
24 change, and that change would need to be approved  
25 by a number of people.

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□

27

1 Q Was the change implemented on a  
2 trial basis before it was ultimately adopted to the  
3 SMP?

4 A Almost always.

5 Q Mr. Brawley, turn, if you could, to  
6 the page of Exhibit 2 with Bates number 020103:  
7 The pages prior to 020103 are -- other than the  
8 title pages -- are tentative amendments; is that  
9 correct?

10 A I can't say. I don't know.

11 Q Okay. Take a look. And I took you  
12 back, now I want to take you forward.

13 MR. KELLMEYER: Rich, what do you mean by

004143

14 tentative amendments?

15 MR. RICCI: I'm sorry. That's a good  
16 point. Either tentative amendments or --

17 MR. KELLMEYER: Also, do you want him to  
18 characterize what the documents are, or is this  
19 from his recollection?

20 MR. RICCI: Well, I want him to look at  
21 it and see if he recognizes it.

22 Q (By Mr. Ricci) Let me start over  
23 again. Mr. Brawley, were the SMPs generally  
24 maintained so that the amendments were in front of  
25 the SMP and then the SMP itself was later on?

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28

1 A I believe that is correct, I'm not  
2 sure.

3 Q Okay. Take a look at this document  
4 and tell me if that appears to be how this one is  
5 maintained?

6 MR. KELLMEYER: I just put in an  
7 objection that the document speaks for itself as  
8 far as the order of the document and what is  
9 contained therein.

10 THE WITNESS: It appears that the  
11 tentative amendments are at the beginning.

12 Q (By Mr. Ricci) And also I think  
13 you will see there are some final dispositions of

001144

14 amendments?

15 A This is a status memo here.

16 Q What is a status memo?

17 A I would think this had to do with  
18 after a demonstration of the change. Here is a  
19 final disposition.

20 Q And the final disposition is the  
21 determination as to whether the amendment to the  
22 process will be adopted or not?

23 A That's correct. That is how I  
24 recall it.

25 MR. KELLMEYER: I will note for the

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29

1 record that Mr. Brawley is simply paging through  
2 the document and reading off of the document.

3 MR. RICCI: Well, I don't know that he is  
4 reading off of the document; he is perusing the  
5 document.

6 THE WITNESS: These are mostly tentative  
7 process changes.

8 MR. KELLMEYER: And, Mr. Brawley, the  
9 reason that you can tell that they are tentative  
10 processes is --

11 MR. RICCI: Joe, you will --

12 MR. KELLMEYER: -- that you are taking it

004145

13 off the document?

14 MR. RICCI: -- have a chance to  
15 cross-examine.

16 MR. KELLMEYER: I understand, but I --  
17 it's clear that he is taking it off the document.

18 MR. RICCI: Yes. Yes.

19 Q (By Mr. Ricci) Do you recognize  
20 these? I mean, you are not simply reading a  
21 document, Mr. Brawley?

22 A I do not recall these.

23 Q Okay.

24 A But this is the way that we did the  
25 operation.

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□

30

1 Q You recall the form by which --

2 A The format.

3 Q The form and the format by which the  
4 amending process was undertaken?

5 A Yes.

6 Q And these documents that you are  
7 looking at now are consistent with that form and  
8 format?

9 A That's correct.

10 Q Okay. Now, if you look at the page  
11 with -- toward the beginning again, it has Bates  
12 number 020062, I think it's the second page of the

004146

13 exhibit. There is an indication under the label  
14 date in the lower left-hand corner 10/66. Do you  
15 see that?

16 A Yes.

17 Q Do you understand that date to be  
18 the date when this SMP was issued?

19 A I see no other date on it, so I  
20 would assume that is what it is.

21 Q And that assumption is based upon  
22 your experience in working with these documents?

23 A No, that's just as I see it here.

24 Q Okay.

25 A I would assume that that is the

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□

31

1 date. That these -- that probably that these  
2 people signed it.

3 Q Now, if you look at the page that I  
4 originally took you to, 020103, what do you  
5 understand that page to be?

6 A A table of contents probably of what  
7 follows in this document.

8 Q Okay. That would be the table of  
9 contents for the SMP itself?

10 A For the SMP, yes.

11 Q The amendments are not included in

004147

12 this table of contents; is that correct?

13 A I don't know that.

14 Q Can you take a look at it and  
15 determine that?

16 MR. KELLMEYER: Would you like him to  
17 read the document and determine that from the  
18 document?

19 MR. RICCI: Take a look at the table of  
20 contents.

21 MR. KELLMEYER: I'm going to make an  
22 objection that the document speaks for itself.

23 THE WITNESS: You want me to tell you  
24 whether these are incorporated in the rest of the  
25 SMPs?

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□

32

1 Q (By Mr. Ricci) What I'm trying to  
2 determine, Mr. Brawley, and I don't know if you can  
3 testify to this or not, is whether this table of  
4 contents pre-dates the amendments that appear  
5 before it in Exhibit 2?

6 MR. KELLMEYER: I would like to say for  
7 the record, I'm not sure what the point of this  
8 exercise is; the document speaks for itself.

9 THE WITNESS: I cannot tell you whether  
10 these are incorporated in this just by looking at  
11 it.

004148



12 Q (By Mr. Ricci) You can't tell  
13 whether the tentative amendments are incorporated  
14 in the table of contents?

15 A Not by looking at it, no.

16 Q Okay. And you can't tell whether  
17 the table of contents predates the tentative  
18 amendments?

19 A What confuses me is the penciled in  
20 dates and I'm not sure what the cover date is for  
21 the SMP.

22 Q Okay.

23 A I don't know if these came off of  
24 this or not. I have no way of knowing that.

25 Q Okay. Mr. Brawley, do you have a

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33

1 recollection, as you sit here today, of the  
2 manufacturing process for the manufacture of  
3 Aroclors?

4 A To some degree.

5 Q Okay. Why don't you just give me to  
6 the best of your recollection how the process  
7 worked.

8 A Our raw material was biphenyl,  
9 chlorinated biphenyl, in the presence of a  
10 catalyst. The chlorination was determined by the

004149

11 specific gravity and temperature.

12 Q You mean the degree of chlorination?

13 A The degree of chlorination and then  
14 what -- that is how we can tell when a batch had  
15 finished. We then transferred that into a blow  
16 tank, removing some HCL.

17 Q And HCL is a hydrogen chloride?

18 A Yes, I would say that is what it  
19 was. We just -- I just -- that is what it was  
20 commonly referred to was HCL gas. And then we  
21 distilled the material. We treated the distilled  
22 material with a -- what we call an attapulugus clay  
23 that improved electrical properties, or improved  
24 purity of material. And transferred it to storage.

25 Q Mr. Brawley, do you recall that in

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34

1 the chlorination process there was an HCL gas that  
2 was generated?

3 A Yes.

4 Q Turn, if you would, to the page with  
5 Bates number 020107. Do you have an understanding  
6 as to what is depicted on 020107?

7 A To some extent, yes.

8 Q What is that understanding?

9 A The chlorination process for a --  
10 for the product -- for producing a batch of

004150

11 Aroclor.

12 Q If you look at the cylindrical  
13 figure towards the right center of the diagram, and  
14 I think it's labeled chlorinator, although it's  
15 difficult to read, do you understand that large  
16 cylindrical figure to be the chlorinator?

17 A Yes, I do.

18 Q Okay. And there is an arrow going  
19 from the top of the chlorinator through some sort  
20 of a device and then it leads to a box labeled  
21 condenser. Do you see that?

22 A Yes.

23 Q Do you know what the device is  
24 between the chlorinator and the condenser?

25 A That would be a Brinks mist

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□

35

1 eliminator. Let's see what the date is on this. I  
2 believe that would be a Brinks mist eliminator.

3 Q Okay. And then if you look -- if  
4 you follow the line that leads from what you have  
5 just identified as a Brinks mist eliminator, it  
6 leads into a box labeled condenser and then from  
7 the condenser it leads to another box labeled  
8 Brinks mist eliminator.

9 A Oh, okay. So what I took to be a

004151

10 Brinks mist eliminator, I don't know that. The  
11 Brinks mist eliminator would be -- it is labeled  
12 Brinks mist eliminator.

13 Q There was only one Brinks mist  
14 eliminator treating the off-gas from the  
15 chlorination?

16 A Each chlorinator had its own Brinks  
17 mist eliminator.

18 Q One Brinks mist eliminator per  
19 chlorinator?

20 A Per chlorinator, yes.

21 Q Do you know when the Brinks mist  
22 eliminator was added to the process?

23 A No, I do not.

24 Q Do you recall if it was there when  
25 you first went into Department 246?

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□

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1 A No, it wasn't. So it had to be  
2 prior to 1966. And after, what, '64 or '63 -- had  
3 to be in between then.

4 Q Was the condenser utilized to treat  
5 the chlorinator off-gas when you first moved into  
6 Department 246?

7 A I cannot picture that, that  
8 condenser right now.

9 Q By the way, I have referred a couple

004152

10 of times to the term off-gas?

11 A That is right. HCL off-gas.

12 Q That is the HCL coming off of the  
13 chlorinator; is that correct?

14 A That's correct.

15 Q What was the purpose of the Brinks  
16 mist eliminator?

17 A To remove the light boiler Aroclors  
18 that might carry over with the off-gas.

19 Q If you look at the box that is  
20 labeled Brinks mist eliminator, there are two areas  
21 coming out of that box: One arrow says "To  
22 F-218" -- To, T-o. And the other one says "To  
23 Sewer." Do you see that?

24 A Yes.

25 Q Do you understand what those two

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1 arrows depict?

2 A The off-gas went to Department 218;  
3 the arrows going to the sewer, right now I can't  
4 picture that.

5 Q So you know what the "To F-218"  
6 means, but you don't know what the "To Sewer"  
7 means?

8 A I don't recall how that setup is.

004153

9 Q Do you have any recollection of the  
10 Brinks mist eliminator discharge into the sewers?  
11 A No.  
12 Q Turn over to the next page if you  
13 could. This is Bates number -- the page with Bates  
14 number 020108. What do you understand that to be?  
15 A Distillation system.  
16 Q That is a diagram of the  
17 distillation system?  
18 A That is what it says, yes.  
19 Q Do you recognize it?  
20 A No, not yet.  
21 Q Okay. Why don't you take a moment.  
22 A Okay. I will probably recall  
23 everything I'm going to.  
24 Q Okay. The -- it looks like the  
25 first step in the process that is depicted on this

POHLMAN & MORRIS REPORTING COMPANY

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1 page is the blow tanks; is that correct?  
2 A That is correct.  
3 Q Is that consistent with your  
4 recollection as to what the first step in the  
5 aeration and distillation processes were?  
6 A Yes.  
7 Q In the diagram for the blow tank,  
8 there is an arrow coming out of the top of the blow

004154

9 tank. Do you see that?

10 A Yes.

11 Q Do you know what that depicts?

12 A No, I don't.

13 Q Turn, if you could, Mr. Brawley, to

14 the page with Bates number 020111. This is a

15 description of the chlorination reaction step; is

16 that correct?

17 MR. KELLMEYER: Read it over first,

18 Mr. Brawley, if you have to.

19 THE WITNESS: What was your question?

20 Q (By Mr. Ricci) I asked you whether

21 this was a description of the chlorination reaction

22 step?

23 A I believe it to be, yes.

24 Q Look, if you could, at the fourth

25 paragraph on that page?

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□

39

1 A Okay.

2 Q There is a discussion there of

3 biphenyl measuring tank. Do you see that?

4 A Yes.

5 Q And in the third sentence of that

6 paragraph there is a statement, "the four overflow

7 levels on the measuring tank permit biphenyl

004155

8 charges of 1800, 2800, 3600, and 4000 pounds." Do  
9 you see that?

10 A Yes.

11 Q Do you have understanding as to what  
12 the term "overflow levels" means?

13 A Yes.

14 Q What is that?

15 A This is a measuring tank. Biphenyl  
16 is transferred to the measuring tank by a pipe, and  
17 a pump, and a pipeline. Depending on what grade of  
18 Aroclor you were going to make, you would need a  
19 different size charge so you would -- the  
20 overflow -- you would use the overflow for whatever  
21 size Aroclor batch you were going to make. That  
22 overflow would be in use, that overflow line. All  
23 that did was maintain the level in that -- in that  
24 measuring tank. The overflow went back into the  
25 biphenyl storage tank that you were transferring

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1 out of.

2 Q Was there some sort of level control  
3 on that tank to control the amount of biphenyl  
4 getting into the tank?

5 A On that one I don't recall that.  
6 That, I believe, was just maintained by the  
7 overflow line.

004156



8 Q Was there any way that biphenyl from  
9 these measuring tank could escape to the sewers?  
10 A Not that I'm aware of.  
11 Q Do you recall any situations where  
12 the tank was overfilled?  
13 A I don't recall any.  
14 Q If the tank was overfilled, where  
15 would the biphenyl flow to?  
16 A Not very far.  
17 Q Why is that?  
18 A It would crystallize -- what we  
19 called a high X point.  
20 Q A high X point?  
21 A X point.  
22 Q Is that basically a freezing point?  
23 A Yes.  
24 Q Was this tank heated?  
25 A Yes.

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□

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1 Q Turn, if you could, Mr. Brawley, to  
2 the page with Bates number 020113. I had a  
3 question regarding the second paragraph in the  
4 aeration and distillation description on that page.  
5 Feel free to look at as much of it as you would  
6 like to feel comfortable.

004157

7 A Okay.

8 Q In that second paragraph, there is a  
9 discussion of the addition of hydrated lime to the  
10 still. Did you see that?

11 A Yes.

12 Q What is hydrated lime?

13 A I can't answer that. I don't know  
14 what hydrated lime is. It's just lime, a bag of  
15 lime.

16 Q It's a solid, it's not a liquid?

17 A That's correct. It's a powder.

18 Q Do you have a recollection of this  
19 step in the process where hydrated lime was added  
20 to the still?

21 A Yes.

22 Q What happened to the lime after it  
23 had served its purpose in the still?

24 A It remained in -- in what we call  
25 the residue inside of the still. You would -- I

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1 believe we added lime, ran so many gallons through  
2 this still. I believe we added more lime at one  
3 point. And then so many gallons of material  
4 through the still. And, at some point, we would  
5 not do any more distillation. We disposed of what  
6 we called bottoms.

004158

7 Q Okay. And what would the bottoms  
8 consist of?  
9 A High boiler Aroclors.  
10 Q And it would also include the lime?  
11 A Yeah, I believe it would. Yes.  
12 Q And would it also include the  
13 catalyst?  
14 A As far as I know it would.  
15 Q How were those bottoms disposed of?  
16 A We dropped those bottoms into 55  
17 gallon drums.  
18 Q And then what?  
19 A We allowed them to cool and then  
20 they were taken out of the department to our  
21 warehouse.  
22 Q Do you know what happened to them  
23 from the warehouse?  
24 A I do not.  
25 Q Are you aware of any situations

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1 where the bottoms were disposed of in the sewers?  
2 A Not at all. The bottoms would not  
3 flow through a sewer.  
4 Q They were solid?  
5 A They would become solid at ambient

004-59

6 temperatures.

7 Q Flip over to the next page of  
8 Exhibit 2 to your deposition, please.

9 A Okay.

10 Q There is a discussion -- a  
11 continuation of a discussion of the blending, and  
12 filtration, and storage steps of the process and I  
13 was -- take a moment to just review that, if you  
14 could. In the first paragraph on this page, there  
15 is a discussion of a requirement that the filter  
16 press be cleaned. Do you see that?

17 A Yes.

18 Q What was the filter press?

19 A I'm trying to visualize my  
20 process --

21 Q Okay.

22 A -- in a way that I can describe it  
23 to you. This is actually a filtered -- they call  
24 it a press, I'm not sure why. It was 36 inches in  
25 diameter, 36 inches high. And it contained at

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1 least a series of leaves that had paper on these  
2 leaves and that paper -- this filter would remove  
3 attapulugus clay from batches we would circulate  
4 through that press.

5 Q So this was the -- was this the last

004160

6 step in the process before transferring this to the  
7 finished product for storage?

8 A That is correct. Yes.

9 Q What did the cleaning of these  
10 filters entail?

11 A It entailed blowing the material --  
12 blowing Aroclors out of the press into a tank until  
13 there was no Aroclor left in the press. It is  
14 removed the best we could using air pressure. Then  
15 we, taking this press apart, unbolted each of the  
16 leaves and washing it clean of attapulugus clay.

17 Q What did you use to wash it?

18 A If we used anything at all, it would  
19 be hot water and then wiped each -- wiped the  
20 entire press and leaves clean and dry.

21 Q Was any water used in that washing  
22 process discharged to the sewers?

23 A It would be, but I don't recall  
24 using -- I just don't recall using it routinely to  
25 clean the press.

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□

45

1 Q Using water?

2 A Yes.

3 Q Do you recall any method of cleaning  
4 the press without using the water or some form of

004161

5 liquid?

6 A Not with a liquid, no.

7 Q Okay. Let me -- I don't think my  
8 question was clear. Do you recall methods of  
9 cleaning the press without using a liquid?

10 A Yes.

11 Q Okay. What was that?

12 A Just wiping it clean. The  
13 attapulgius clay would remain on top of this paper.  
14 When you blow it dry, the attapulgius clay tends to  
15 stay on top of the paper and so you remove this  
16 bundle of leaves out of the shell and then take  
17 each -- the paper off with the attapulgius clay on  
18 it. And then you would use rags to wipe it off.

19 Q What happened to the Aroclors that  
20 were taken out of the filter?

21 A No, you would blow that by air into  
22 a -- back into the tank you fed out of. The  
23 Aroclors stayed in the tank.

24 Q The tank that fed into the filters?

25 A That fed into the filter.

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□

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1 Q Okay. So that would just be  
2 refiltered once the filters were cleaned?

3 A Yes.

4 Q In the fourth paragraph on that

004162

5 page, there is a discussion of the Aroclors being  
6 transferred from the storage tank either to drums,  
7 or to tank cars, or to tank trucks, or to different  
8 departments. Do you see that?

9 A Yes.

10 Q Do you recall any instances where  
11 there were spills or leaks of Aroclors in the  
12 transfer process?

13 A I don't recall any. No doubt we did  
14 not run -- no doubt there had been occurrences, but  
15 I don't recall them.

16 Q Okay. Why do you say no doubt there  
17 were occurrences?

18 A Gaskets leak, pumps leak.

19 Q Were there sewers in the area where  
20 the transfer of the materials to drums, and tank  
21 cars, and tank trucks took place?

22 A That was in 1966, yes.

23 Q Would leaks and spills of the kind  
24 that you just discussed find their way into the  
25 sewers?

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1 A In '66 it's possible, I believe.

2 Q Okay. Did something change after  
3 1966 to prevent that from happening?

004163

4                   A     At some point we put in a settling  
5 basin, but I can't recall what year that was.

6                   Q     Prior to the time that you installed  
7 the settling basin, was there any mechanism in  
8 place to keep spilled Aroclors from getting into  
9 the sewers?

10                  A     I'm sorry, say that again.

11                  Q     Okay. Prior to the time that you  
12 installed this settling basin, was there any kind  
13 of a facility or device in place to keep Aroclors  
14 from getting into the sewers?

15                  A     Not within my department. They  
16 would go to the plant treatment facility.

17                  Q     What did you understand the plant  
18 treatment facility to be?

19                  A     I understood it to be a facility  
20 that treated plant chemicals so that it would meet  
21 regulation before it would be discharged from our  
22 plant treatment plant.

23                  Q     Are you talking about the village  
24 wastewater treatment plant?

25                  A     I don't know. All I know is I

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1 thought we had a plant treatment plant.

2                   Q     Okay.

3                   A     Maybe it's the village's, I don't

004164



4 know.

5 Q If you look at the fifth paragraph  
6 on this page that we are looking at right now which  
7 is 020114, there is a discussion of a number one  
8 blend tank. Do you see that?

9 A Yes, I do.

10 Q Do you have a recollection of the  
11 number one blend tank?

12 A I believe I do.

13 Q It says in this document that the  
14 number one blend tank was used to mix 10 percent  
15 xylene and 90 percent Aroclor 1254. Is that  
16 consistent with your recollection of what that  
17 number one blend tank was used for?

18 A I cannot answer that. I know we  
19 used xylene as a blend. I can't picture how we did  
20 that at the present time. One more thing.

21 Q Sure.

22 A When you asked about sewers at the  
23 tank car loading, we did not have sewers at the  
24 tank car loading at this time.

25 Q Did you have sewers at the drum

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1 loading?

2 A Yes.

004165

3 Q How about tank trucks?  
4 A I don't believe we did at this time.  
5 Q Okay. At some point sewers were  
6 added to those loading areas?  
7 A Yes.  
8 Q Was the purpose of those sewers to  
9 bring everything to this settling basin?  
10 A That's correct.  
11 Q Can you show me on the map here  
12 where the drum loading area was?  
13 A Oh, yes. I believe it was CR.  
14 Q CR, yeah.  
15 A I believe that is the building that  
16 we dumped in.  
17 Q Was it an enclosed building?  
18 A Yes.  
19 Q Do you recall any spills or leaks in  
20 the area where the Aroclor and the xylene was  
21 blended?  
22 A I don't recall any. There was a  
23 blending operation; it was fairly straight forward.  
24 Q Now, earlier when we were talking  
25 about some of these loading areas, you indicated

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1 that you didn't recall any spills, but you thought  
2 they probably happened. Would that be a similar

C  
4165

3 situation that would apply to the blending area?

4 A I don't believe so.

5 MR. KELLMEYER: Objection.

6 Mischaracterizes his previous testimony. I don't  
7 believe that he talked about spills. I think he  
8 was talking about leaks.

9 THE WITNESS: Well, more or less leaks,  
10 yes.

11 Q (By Mr. Ricci) Okay. Would there  
12 typically be leaks in the area where the xylene and  
13 the Aroclors were blended?

14 A No, there were not many leaks, no.  
15 That was a pretty straight forward operation. And  
16 quite simple. No process involved.

17 Q When you say no process involved,  
18 what do you mean?

19 A No processing equipment. It was  
20 just a blend of materials.

21 Q How was --

22 A A mixture.

23 Q I'm sorry. How was the xylene  
24 introduced into this blending process?

25 A Xylene came in 55 gallon drums and

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□

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1 we would siphon it out of the drums into the mix

004167

2 tank.

3 Q If you look at this fifth paragraph  
4 on the page that we have been focusing on, there is  
5 a statement, "after the blending operation the  
6 blend tank must be cleaned." Do you see that?

7 A Yeah.

8 Q And then it gives a short  
9 description of the cleaning process. Do you have  
10 any recollection of the cleaning process for that  
11 blend tank?

12 A No.

13 Q Do you know why the tank had to be  
14 cleaned?

15 A Yes.

16 Q Why was that?

17 A We made different products in that  
18 tank; one was not compatible with the other.

19 Q Did the cleaning process involve any  
20 discharges to the sewer?

21 A No.

22 Q How do you recall that?

23 A I'm responsible for yields. That  
24 would not help my yields to discharge materials any  
25 place.

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1 Q The next section of the SMP on this

004103

2 particular page is labeled "By-product Hydrogen  
3 Chloride." Can you just take a moment to look at  
4 that?

5 A Okay.

6 Q Have you had a chance to read that?

7 A Yes.

8 Q There is a statement in the second  
9 sentence, "If Department F-218 is unable to handle  
10 the off-gas, it may be sewerred at Department 246 by  
11 passing through a Haveg S-K drowning jet." Do you  
12 recall that drowning jet?

13 A Yes, I do.

14 Q What is a Haveg S-K drowning jet --  
15 I mean, if you can describe it?

16 A Haveg is a material that is -- to me  
17 it's like carbon. It's a material that would break  
18 fairly easily. If tightened to an excess or hit  
19 with something heavy, it would crack. As opposed  
20 to steel or something like that. Haveg probably  
21 would not produce a spark. This -- this Haveg was  
22 maybe two feet in diameter and eight feet long,  
23 something like that. We -- it was a drowning  
24 system for HCLO gas.

25 Q By drowning you mean you mixed the

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1 off-gas with water?

2 A It was a spray of water.

3 Q A spray of water?

4 A Yes, inside of the Haveg.

5 Q And the gas passed through the Haveg

6 as well?

7 A Yes.

8 Q And then the result mixture of water

9 and gas was discharged to the sewer?

10 A That's correct, within the

11 department.

12 Q The Department 246 sewers?

13 A Yes.

14 Q Do you recall this happening while

15 you were foreman at --

16 A Oh, yes.

17 Q The off-gas going to the sewers?

18 A Oh, yes.

19 Q How frequently did it happen?

20 A Not frequently. I would say when

21 using -- the department had to be down, shut down,

22 for some reason, then we would sewer the off-gas.

23 Q Were there other departments that

24 provided HCL to the Department F-218?

25 A I don't know that.

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1           Q     Now, we had looked earlier at the  
2 diagram that showed an arrow coming out of the  
3 Brinks mist eliminator that said, "To Sewer." Does  
4 this refresh your recollection as to what that  
5 arrow was referring to?

6           A     No, it doesn't.

7           Q     Do you think that -- you do recall  
8 this Haveg drowning to the sewer?

9           A     Yes.

10          Q     Do you recall that the Haveg took  
11 the gas off the Brinks mist eliminator?

12          A     I don't recall how this system was  
13 right now.

14          Q     In the next paragraph under the  
15 heading "By-product Hydrogen Chloride," there is a  
16 statement that the gas passes through a condenser  
17 and a mist eliminator. Do you recall the condenser  
18 at all?

19          A     No.

20          Q     What is a condenser? Do you have an  
21 understanding of what that is?

22          A     A condenser would be -- its purpose  
23 would be to cool vapors -- Aroclor vapors sort of  
24 would drop out and not carry on with the HCL  
25 off-gasses.

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1                   Q     Then the next statement is, "The  
2 entrained liquid, which is primarily biphenyl, is  
3 sewered." Do you see that? I'm in the last  
4 paragraph of 020114.

5                   A     All right.

6                   Q     Do you have an understanding as to  
7 what the term entrained liquid means?

8                   A     Entrained would, to my knowledge,  
9 would mean it's carried over with the off-gas.

10                  Q     So this would be any -- well, let me  
11 go back. Do you understand the entrained liquid to  
12 be organics?

13                  A     Yes.

14                  Q     And this would be the organics that  
15 make it past the condenser and the mist eliminator?

16                  A     I can't say that. I don't know.

17                  Q     Okay. The statement in this  
18 document is that the entrained liquid, which is  
19 primarily biphenyl, is sewered. Do you have any  
20 recollection of sewerage of material that fits that  
21 description?

22                  A     No.

23                  Q     Turn, if you could, Mr. Brawley, to  
24 020116. There is a discussion under the heading  
25 capacity that the capacity of Department 246 is

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1 2,400,000 pounds of Aroclor on a 7-day-a-week  
2 basis. Do you see that?

3 A Yes.

4 Q Is that consistent with your  
5 recollection of the capacity of the plant?

6 A I have no idea what the capacity is  
7 right now.

8 Q Do you recall that you were ever  
9 able to operate at capacity?

10 A I would say yes.

11 Q And do you recall that you did  
12 operate at capacity at times?

13 A I believe so.

14 Q Do you know if you were operating at  
15 capacity in the 1966 time period?

16 A I would say yes.

17 Q Mr. Brawley, do you recall if there  
18 was a Haveg drowning jet at the blow tank?

19 A I don't recall.

20 Q Turn, if you could, to the page with  
21 Bates number 020159. Now, at the top of the page,  
22 it's labeled "Appendix D Utilities" and then under  
23 item No. 5 there is a label or a heading "Purchased  
24 Water." Do you see that?

25 A Yes.

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004173

1           Q     Do you have any understanding as to  
2 what this identification of purchased water refers  
3 to?

4           MR. KELLMEYER: I would like to take a  
5 look at what this is Appendix D to. It goes back  
6 to 020156, I think that is where it starts.

7           THE WITNESS: What is your question now?

8           Q     (By Mr. Ricci) The question is:  
9 "Do you have any understanding as to what is  
10 depicted under the heading "Purchased Water"?

11          A     I would just say this is what  
12 normally would be used at each step of the process.

13          Q     Okay. The -- under this heading  
14 there are five columns, and the first column is  
15 identified "Item Number." Do you see that?

16          A     Yes.

17          Q     What does that refer to?

18          A     Each vessel had a number just like  
19 your pages have a number.

20          Q     Okay.

21          A     Each vessel had a number.

22          Q     That was a number assigned to the  
23 vessel by the company?

24          A     That's correct.

25          Q     Just to give them a way of

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004174

1 identifying it?

2 A That's correct.

3 Q Okay. And then the next column is  
4 "Using Equipment." What does that refer to?

5 A Where it says number one still it  
6 identifies that system of equipment.

7 Q Okay. So each of the listings under  
8 that heading are a different piece of equipment?

9 A Yes.

10 Q The next two columns are "Normal Use  
11 GPM" and "Peak Use GPM." Do you know what those  
12 are?

13 A No. I would say it had to do with a  
14 normal rate or a maximum rate of production.

15 Q Does GPM stand for gallons per  
16 minute?

17 A Yes, it does.

18 Q Is it your recollection that there  
19 were normal production rates and peak production  
20 rates that you operated at in Department 246?

21 A There were times when you didn't  
22 need full production.

23 Q And then the last column is "Monthly  
24 Usage M. Gal," G-a-l. I assume that G-a-l stands  
25 for gallons; is that correct?

004175

1                   A     Yes.

2                   Q     Do you know what the "M" stands for?

3                   A     I would say it's thousands.

4                   Q     Okay. So, in the first line where

5 it says 150, that means 150,000?

6                   A     I would take that to be, yes.

7                   Q     150,000 gallons a month?

8                   A     Yes.

9                   Q     Okay. Now, let's look at the first

10 line of this listing here, which is the number one

11 still. What is the number one still?

12                   A     We had two stills, number one and

13 number two. What is the rest of your question?

14                   Q     Was there any -- was there any way

15 of distinguishing as to what the number one still

16 did versus what the number two still did?

17                   A     I was trying to clear that in my

18 mind and I can't do that.

19                   Q     Okay. Do you recall how the number

20 one still used water?

21                   A     It would be on the cooling

22 condenser. Let me think about that for a minute.

23                   Q     Sure, go ahead.

24                   A     Probably in 1966 we had water cooled

25 condensers. At some point, we changed over to air-

004170

1 cooled condensers.

2 Q Do you recall when that changeover  
3 occurred?

4 A No.

5 Q Was the water that was used in the  
6 water cooled condensers discharged to the sewers?

7 A It would be, yes.

8 Q Do you recall an effort in the early  
9 '70s to -- by the company to reduce the amount of  
10 Aroclors that it was putting into its sewers?

11 A Early '70s? In the early '70s, yes.

12 Q Was the shift from water cooled  
13 condensers to air-cooled condensers associated with  
14 that effort to reduce the amount of Aroclors that  
15 you were putting into the sewers?

16 A I don't believe that is the case.  
17 Air-cooled condensers or water cooled condensers,  
18 neither would contain Aroclor.

19 Q Was the water used in the number two  
20 still also used for cooling condensers?

21 A Yes.

22 Q What about the number one vacuum  
23 jet, do you recall what that was?

24 A That would be the -- the jet to pull  
25 a vacuum on number one still.

004177

1 Q Okay. How was water used in -- to  
2 pull a vacuum?

3 A That is how a jet works, water  
4 pressure is what creates the vacuum.

5 Q Where does the water come from and  
6 where does it go to?

7 A It's city water and it would be  
8 discharged to the plant -- to the plant sewer --  
9 I'm sorry, to the department sewer.

10 Q Does it -- does it pass through  
11 something?

12 A No. No, it would be discharged. I  
13 can't visualize where the discharge goes. It would  
14 have to discharge into the plant sewers, into the  
15 department sewer system somehow.

16 Q Right.

17 A It's city water.

18 Q I'm trying to figure out -- I mean,  
19 does it come out of a hose or does it come out of a  
20 pipe?

21 A Out of a pipe.

22 Q Okay. And from the pipe, where does  
23 it go to? It doesn't just go right from the pipe  
24 right into the sewer, does it?

004178

25 A I would think so. To the best of my

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1 knowledge it would.

2 Q Okay. How does that create a  
3 vacuum? I'm just trying to understand what is  
4 going on here. I should have warned you at the  
5 beginning of the deposition, Mr. Brawley, I'm not  
6 an engineer. You have probably figured that out  
7 already.

8 A I can tell that. And I am not  
9 either, so I'm not sure I can explain how a vacuum  
10 jet works. These jets had, I believe, two stages.  
11 Each we operated with a nozzle that water was  
12 forced through.

13 Q Okay.

14 A It -- the velocity of the water has  
15 such force that it pulls air with it. And that air  
16 pulls, it would come from the still system.

17 Q So the water pulling the air creates  
18 a vacuum that pulls air out of the -- out of the  
19 still?

20 A Out of the still, yeah.

21 Q And the water in the air that comes  
22 out of the still goes into the sewer?

23 A Yeah.

24 Q Why do you need the vacuum in the

004179

25 still?

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□

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1           A     You reduce the boiling point by  
2 lowering the pressure.

3           Q     Would the air coming out of the  
4 still contain any vaporized organics?

5           A     A minimal amount.

6           Q     And why is that?

7           MR. KELLMEYER: Objection. It's unclear  
8 to me what you are asking why is.

9           Q     (By Mr. Ricci) Why would you say  
10 minimal amount as opposed to none or a lot?

11          A     I can't answer that; I don't know  
12 that.

13          Q     Okay. Under this item "Purchased  
14 Water" that we are looking at, there are three  
15 vacuum jets; is that one per still?

16          A     No. We only had two stills. Let's  
17 see, '66, two stills. I can't answer that. I  
18 don't know that.

19          Q     You don't know what that third  
20 vacuum jet --

21          A     Not right now I don't.

22          Q     And then the S-K drowning jet is the  
23 Haveg drowning jet that we talked about earlier?

004180



24 A I guess that is what that means.  
25 Q Mr. Brawley, turn to the page that

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1 is Bates number 020165. There is a heading on that  
2 page, "Appendix G, Material Balance." Do you see  
3 that?

4 A Yes.

5 Q Do you have an understanding as to  
6 what the term "material balance" refers to?

7 A Material balance has to do with --  
8 I'm not an engineer. Material balance has to do  
9 with theoretically how much of each raw material or  
10 anything that is used to make Aroclor.

11 Theoretically it takes so much to make 100 pounds  
12 of Aroclor. That is a material balance.

13 Q Basically how much raw material you  
14 have to put in?

15 A How much trichloride, how much  
16 chlorine you have to put in.

17 Q You have to put in to take out a  
18 given quantity of that product?

19 A That's correct, yes.

20 Q Did you have to perform or calculate  
21 material balances as a foreman in Department 246?

22 A Not material balances, no.

23 Q Who did that?

004181

24                   A     I don't know. I'm sure it was done;  
25 I don't know.

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□

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1                   Q     Are material balances different than  
2 yields?

3                   A     To me it's the same thing.

4                   Q     Turn to the next page, if you could.

5 On the next page there is a heading, "Summary of  
6 Material Balance Results." Do you see that?

7                   A     Yes.

8                   Q     Did you ever have occasion in your  
9 position as foreman of Department 246 to refer to  
10 these material balances in any way?

11                  A     Only to the extent where each month  
12 I would run an inventory. That would give me  
13 yields per the amount of Aroclor produced. Yields  
14 of chlorine biphenyl, biphenyl being the main raw  
15 material.

16                  Q     Okay. On this summary that is on  
17 Bates number 020166, again, there are a number of  
18 columns set up. The second column is headed  
19 "Usages Theory." Do you know what that means?

20                  A     If everything worked perfect, that  
21 is the yields that you would get. The usage you  
22 would use.

004182

23 Q Okay. So --  
24 A If you had ideal control conditions.  
25 Q So that you would get -- under ideal

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1 conditions, you would need 58 pounds of biphenyl to  
2 make 100 pounds of Aroclors?

3 A Yes.

4 Q Okay. And then in the next column,  
5 it's labeled "Pounds Per 100 Pounds Product  
6 Material Balance." Is that the actual -- now, what  
7 is that?

8 A I can't tell you.

9 Q You don't know what that is?

10 A That is out of my line.

11 Q Okay. Then the last column refers  
12 to "Material Balance Usages Pounds Per 100 Pounds."  
13 Do you know what that is?

14 A Where are we?

15 Q The last column on this page.

16 A Okay. I would need to say, no, I  
17 don't know what that is.

18 Q Okay. To the page with Bates No.  
19 020168.

20 A Okay.

21 Q This is labeled "Appendix H,  
22 Atmospheric Discharge - Waste Disposal." Under the

004183

23 heading, "Discharge to Sewers," there is an item  
24 number three which is "Condensibles in chlorinator  
25 off-gas." Do you see that?

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1 A Okay. Yeah.

2 Q Do you know what that term  
3 condensibles refers to?

4 A No. No, I don't.

5 Q Turn, if you could, to 020173.

6 A Okay.

7 Q At the bottom of that page -- well,  
8 let me start again. At the top of the page there  
9 is a heading, "Safety and Toxicity Data, Appendix  
10 J." And that appendix actually begins on Page  
11 020170. Are you generally familiar with this  
12 appendix to the SMP?

13 MR. KELLMEYER: Rich, would you define  
14 what you mean "generally familiar with."

15 MR. RICCI: Do you recall it being a part  
16 of the SMP? Did you ever have occasion to refer to  
17 it?

18 THE WITNESS: I have read it.

19 Q (By Mr. Ricci) Okay. What was the  
20 purpose of this section -- this appendix to the  
21 SMP?

004184

22                   A     The purpose of this was to give us  
23 guidelines how to handle the different functions of  
24 the process.

25                   Q     Okay.

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1                   A     Giving us guidelines as to what to  
2 do or not to do.

3                   Q     Turning back to the page with  
4 020173, is that where you are now?

5                   A     Yes.

6                   Q     There is a heading down toward the  
7 bottom, "Trichlorobenzene." Do you see that?

8                   A     Yes.

9                   Q     Was Trichlorobenzene a raw material  
10 in Department 246?

11                   A     Yes.

12                   Q     What was it used for?

13                   A     Blends.

14                   Q     Blends of what?

15                   A     This is what you would use to make  
16 pyranols. You would use a blend of TCB,  
17 Trichlorobenzene, with 1242 Aroclor or another  
18 Aroclor, 1248 or 1254. It's merely a blend.

19                   Q     And was it used to manufacture the  
20 electrical grade Aroclors, is that --

21                   A     Not solely. The mixture we made

004185

22 with TCB was electrical grade, yes.

23 Q Was -- now, the electrical grade  
24 Aroclors were used as transformer fluids?

25 A To my knowledge.

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1 Q And how about capacitor fluids?

2 A I believe so. I'm not -- I can't  
3 say that. All I can say is we produced what we  
4 were supposed to. Where it went and what its uses  
5 were, I really don't know that.

6 Q Was Trichlorobenzene -- well, let me  
7 go back. Were you familiar with a product that was  
8 manufactured in Department 246 by the name of  
9 Thermanol?

10 A Yes.

11 Q What was Thermanol?

12 A That was Aroclor.

13 Q Do you know whether Trichlorobenzene  
14 was used in any Thermanols?

15 A I don't believe so.

16 Q Where did -- where did you get the  
17 Trichlorobenzene?

18 A Generally we received it in tank  
19 cars, I believe from Hooker Corporation.

20 Q On the next page there is a

004186

21 substance identified as Tetra-Trichlorobenzene.

22 A Yes.

23 Q Do you know what that is?

24 A Yes.

25 Q What is that?

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1 A It's a different -- not being a  
2 chemist, I don't know how to say this. It is  
3 similar to TCB. This we call TTCB. Tetra. It is  
4 used for the same mixture roughly. We used it --  
5 to us it was the same except to make a different  
6 product.

7 Q Okay. But it was also used as a  
8 blend in the electrical --

9 A Only as a blend.

10 Q In the electrical grade Aroclors?

11 A That's correct.

12 Q Did you get that from Hooker as  
13 well?

14 A Yes.

15 Q Did that also come in in tank cars?

16 A Most of the time, yes. Almost all  
17 the time.

18 Q Turn to the last page of Exhibit 2  
19 to your deposition, please. On that page there is  
20 a discussion of some of the typical operating

004187

21 difficulties in Department 246. Do you see that?

22 A Yes.

23 Q Is this an aspect of the SMP that

24 you ever had occasion to refer to?

25 A At one point or another I was

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1 familiar with these, yes.

2 Q On the first line there under the

3 heading chlorinators there is a column that says

4 trouble and the trouble identified is,

5 "Chlorinators operating against too much back

6 pressure." Do you know what that means?

7 A I know what it means; it's going to

8 take me awhile to put it into words.

9 Q Okay.

10 A Too much back pressure, I believe,

11 would do one of two things: Create pressure in the

12 chlorinator, or reduce the chlorination, the

13 reaction time or the reaction.

14 Q Did the chlorinators have some sort

15 of a rupture disk or some sort of safety valve on

16 it to relieve pressure?

17 A Yes, they did.

18 Q What -- which was it?

19 A Rupture disk.

004188



20 Q Okay. How did that work?

21 A If you built up pressure to a  
22 certain pounds per square inch, the rupture disk  
23 would fail to protect the vessel.

24 Q When the rupture disk failed, did  
25 that result in a discharge from the chlorinator?

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1 A It would result mostly in a  
2 discharge of HCL.

3 Q Where did that HCL discharge to?

4 A I can't recall that.

5 Q Were the rupture disks tied to  
6 pipes? Do you understand what I mean?

7 A Yeah. It was -- it was tied to  
8 pipes, yes.

9 Q Okay. Do you recall where those  
10 pipes discharged to?

11 A Right now I do not.

12 Q Okay. Under this first line of  
13 "Chlorinators operating against too much back  
14 pressure" -- I'm sorry, on the -- next to the  
15 identification of the trouble of "Chlorinators  
16 operating against too much back pressure," there is  
17 identified as cause, "Plugged off-gas lines"?

18 A Yes.

19 Q Do you understand what that means?

004189

20 A Yes.  
21 Q And what is that?  
22 A There would be some sort of a  
23 blockage in the off-gas line.  
24 Q Okay. And that would cause pressure  
25 to build up in the chlorinator?

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1 A That's correct.  
2 Q The remedy identified here is, "Open  
3 lines and steam them out." Do you recall ever  
4 doing that?  
5 A We did that on rare occasions. HCL  
6 in the presence of moisture quickly eats steel. So  
7 that was not done very often.  
8 Q This was not a common trouble that  
9 you encountered?  
10 A Oh, no, not at all.  
11 Q When it was done, what happened to  
12 the material that was cleaned out of the lines?  
13 A It would have been collected in 55  
14 gallon drums.  
15 Q And done what with?  
16 A I think sent to the incinerator. I  
17 can't picture that right now.  
18 Q Do you know what happened to the

004130

19 material cleaned out of those lines prior to the  
20 time that you had an incinerator for Aroclors?  
21 A I just don't -- I don't recall.  
22 Q You don't recall?  
23 A No.  
24 Q Did you have to shut down the  
25 chlorinator in order to clean out these lines?

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1 A Oh, yes.  
2 Q Under the --  
3 A We would unless we sewerred the --  
4 until we got into a position where we could sewer  
5 the off-gas within the department.  
6 Q I'm sorry.  
7 MR. RICCI: Could you read that answer  
8 back?  
9 (Whereupon, the Reporter read back the  
10 last answer as requested.)  
11 Q (By Mr. Ricci) Okay. I didn't  
12 quite understand that last answer.  
13 A If the line was plugged --  
14 Q Right.  
15 A -- past our drowning jet, we would  
16 shut the chlorinators down until we would blank the  
17 line off where we could clean the line out. But we  
18 could then begin operations again by using our

004191

19 Haveg drowning jet.

20 Q Okay. Instead of sending the gas to  
21 Department 218, you would just send it down the  
22 sewer?

23 A That's correct.

24 Q Under the heading on this page  
25 "Stills," you see that? Next to the last one?

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1 A Yes.

2 Q There is the problem or the trouble  
3 identified is, "Not enough vacuum." And the second  
4 identified cause is, "Coke scrubber contains  
5 water." Do you see that?

6 A Yes.

7 Q What is the Coke scrubber?

8 A I don't know.

9 Q No recollection of that?

10 A No. It was there, but I cannot  
11 picture it.

12 Q Do you have any idea of what  
13 draining the Coke scrubber entailed?

14 A No.

15 Q The next item identified is a  
16 "36-inch Sparkler Filter." Do you know what that  
17 is?

004192

18                   A     That is what I was trying to  
19 describe to you a while ago that had the leaves in  
20 it that collected the attapulugus glass.

21                   Q     And I think you already described  
22 the process of cleaning and repapering that.

23                   MR. KELLMEYER: Could we take a break?

24                   (Whereupon, at this point in the  
25 proceedings a short recess was taken, after which

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1 the following proceedings were conducted:)

2                   MR. RICCI: Mr. Brawley, I will remind  
3 you, you are still under oath and all the rules  
4 that we talked about this morning still apply.

5                   THE WITNESS: I understand.

6                   Q     (By Mr. Ricci) Mr. Brawley, turn,  
7 if you would, to the page with Bates number 020065.  
8 Please take a moment to review that page and the  
9 next page, 020066.

10                  A     I have read it.

11                  Q     Did you get a chance to read the  
12 second page, too?

13                  A     Oh, okay.

14                  Q     This is a document entitled,  
15 "Tentative Amendment J" to the standard  
16 manufacturing process for the manufacture of  
17 Aroclors, Department 246, dated October 1966; is

004103

18 that correct? I'm looking at the title on the  
19 first line of the first page.

20 A Yes.

21 Q Are you familiar with Wayne Krull?

22 A Yes.

23 Q Who did you understand Mr. Krull to  
24 be?

25 A He worked in the what we called the

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□

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1 TSD Department, technical services.

2 Q And he was an engineer?

3 A Yes, he was.

4 Q Was he assigned to the Aroclor  
5 department at the time of this tentative amendment?

6 A I don't know.

7 Q Do you recall the change that is  
8 proposed in this tentative amendment?

9 A No, I don't.

10 Q The -- under the heading changes on  
11 Page 020065, the -- there is a statement, "The  
12 present blow tanks and the piping to the drowning  
13 jet will be modified to reduce stream pollution due  
14 to entrained Aroclor from the blow tanks." Do you  
15 see that?

16 A Yes.

004194

17 Q Do you recall the situation that is  
18 described there with the blow tanks and piping  
19 going to the drowning jet?

20 A No, I cannot picture that.

21 Q On the second page, 020066, under  
22 the heading, "Source of Data," there is statement,  
23 "A simple trap in the blow tank line has been  
24 catching about 250 pounds of Aroclor per day that  
25 formerly went to the sewer." Do you see that?

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□

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1 A Yes.

2 Q Do you have any recollection of the  
3 installation of that trap on the blow tank line?

4 A No, I don't. I just cannot picture  
5 it in my mind at all.

6 Q You testified this morning about a  
7 settling basin that was installed in the Aroclor  
8 department, do you remember that?

9 A Yes, I know we had one, yes.

10 Q Prior to the time that that settling  
11 basin was installed, were the sewers in Department  
12 246, buried underground sewers?

13 A Within the process area we had what  
14 we called open trenches that then went into buried  
15 sewer lines as it left the department.

16 Q Okay. When you say the process

004195

17 areas, you are talking about the area where the  
18 chlorinators were located?

19 A Yes.

20 Q And the blow tank -- let me do it  
21 this way, why don't you tell me what you mean by  
22 the process areas?

23 A Where the batch chlorinators were,  
24 where the distillers were, the blow tanks, the  
25 stills, chlorinators, the press, filter press, that

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□

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1 was what I would call the process area.

2 Q Did the Haveg drowning jet discharge  
3 to the sewers in the process area?

4 A On the edge of it, yes.

5 Q Did the drowning jet discharge into  
6 the trenches or did it discharge into the  
7 underground sewers?

8 A It discharged into a -- what we  
9 called a box and then the sewer line tied into that  
10 box. There was a box underground area, three feet  
11 square or something like that.

12 Q Did the trenches also discharge into  
13 this box before getting into the sewer, the  
14 underground sewers?

15 A No. As I recall, it was only the

004196



16 Haveg drowning jet.

17 Q Can you show me on the map  
18 approximately where this box was located?

19 A I believe I can. It would be  
20 located right here.

21 Q If -- so south of the building that  
22 is identified as 246?

23 A Yes, right here.

24 Q What was the purpose of the box?

25 A I can't answer that. I don't know.

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□

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1 Q Prior to the time that the settling  
2 tank was installed -- or the settling basin, was  
3 there -- were there any devices in the trenches to  
4 trap Aroclors before they got into the sewers?

5 A Not within my department. No.

6 Q How about in this box, was there  
7 anything in the box that trapped Aroclors prior to  
8 getting into the sewers?

9 A But that box was a separate box. It  
10 was just the water from the drowning jet that went  
11 in it. No other part of the process was tied to  
12 that.

13 Q Okay. It was just the water coming  
14 out of the drowning jet?

15 A Yes.

004197

16 Q And, again, you don't have any  
17 recollection of a drowning jet taking the air from  
18 the blow tank?

19 A I can't picture that.

20 Q So you don't know if that drowning  
21 jet or some other drowning jet?

22 A I just -- I cannot.

23 Q When the settling basin was  
24 installed in Department 246, what was the purpose  
25 of that settling basin?

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□

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1 A To trap high water and low water  
2 Aroclors. It was the weirs within that box, that  
3 one -- one was to skim whatever is on top and  
4 another one then that would -- that would force  
5 the -- trap higher boilers into the bottom of that  
6 box.

7 Q Was that settling basin installed as  
8 part of the overall program in the early '70s to  
9 reduce the volume of Aroclors that you were putting  
10 in the sewers?

11 MR. KELLMEYER: Objection. He's already  
12 testified he can't recall when the settling basin  
13 was installed.

14 THE WITNESS: I don't recall what year.

004198

15 Q (By Mr. Ricci) Okay. I -- putting  
16 aside when it was installed, do you recall if that  
17 settling basin was installed as part of the  
18 company's program to reduce Aroclors going to the  
19 sewers?

20 A I would say it was.

21 (Whereupon the Reporter marked Deposition  
22 Exhibit Number 3 for identification as requested.)

23 Q (By Mr. Ricci) Mr. Brawley, let me  
24 show you a document which has been marked as  
25 Exhibit 3 to your deposition. This is a document,

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□

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1 the cover sheet of which has Bates number CER  
2 009600.

3 A Okay.

4 Q Do you have any understanding of  
5 what this document is?

6 MR. KELLMEYER: I would note for the  
7 record that Mr. Brawley's name does not appear on  
8 the document.

9 THE WITNESS: I have never seen this  
10 document.

11 Q (By Mr. Ricci) Do you know who Ron  
12 Williams is?

13 A The name is familiar, but I don't  
14 know.

004199

15                   Q     Turn, if you could, to the first  
16 page of the document. The document is headed, "10  
17 Year Production By Year," and then underneath a  
18 line says, "L-I-Q Aroclors." And --

19                   A     Liquid.

20                   Q     That is what I thought, too. And  
21 then there is a column for a number of years and a  
22 column for W-G-K. Now, you became the foreman of  
23 the Aroclor department of the Krummrich plant in  
24 '63; is that correct?

25                   A     I believe it was somewhere '63,

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□

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1 early '64, something like that.

2                   Q     And you were the foreman through  
3 '74, correct -- or into '74?

4                   A     Yes.

5                   Q     Do the figures under the column  
6 W-G-K for the years '63 through '70 on Exhibit 3  
7 appear to you to be consistent with the production  
8 volume that was being produced in Department 246  
9 during the years that you were a foreman?

10                   A     I could not remember what those  
11 numbers were.

12                   Q     This doesn't in any way refresh your  
13 recollection as to what you were producing?

004200

14 A Not for production numbers, not at  
15 all.

16 (Whereupon the Reporter marked Deposition  
17 Exhibit Number 4 for identification as requested.)

18 Q (By Mr. Ricci) Mr. Brawley, let me  
19 show you Exhibit 4 to your deposition. This is a  
20 document with Bates number CER 010140.

21 A I have read it.

22 Q This is a -- appears to be a  
23 December 2, 1968, memo from yourself to a  
24 Mr. Molloy; is that correct?

25 A Yes.

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□

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1 Q Who is Mr. Molloy in December of  
2 '68?

3 A Plant manager.

4 Q And this appears to be a copy to  
5 Mr. D. T. Mayer?

6 A Yes.

7 Q Who is Mr. Mayer?

8 A I'm not sure what his title was.

9 Q Do you have any recollection of this  
10 document as you sit here today?

11 A No. No doubt I wrote this.

12 Q I was going to ask you, is this the  
13 kind of document that you typically prepared as a

004201

14 foreman in Department 246?

15 A I would think so, yes; I have  
16 written some of these.

17 Q Do you know why you were sending  
18 Mr. Mayer a copy?

19 A I'm trying to think what his  
20 function was as it related to my department. We  
21 scheduled trailer shipments through his group and  
22 his group would order trailers in for us to load  
23 with his Aroclors or whatever in.

24 Q Now, in the first paragraph, you  
25 indicate November production of 3,473,896 pounds

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□

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1 established a new monthly record. Do you see that?

2 A Now, where are you again?

3 Q I'm in the first paragraph of  
4 Exhibit 4.

5 A Okay. Where are you?

6 Q The first sentence, it's underlined.

7 A All right.

8 Q Okay. You with me?

9 A All right.

10 Q Okay. My question is simply,  
11 whether in looking at that you can tell me what  
12 your standard monthly production rates were at that

004202

13 time?

14 A I have no idea, no.

15 Q In the last paragraph of this memo,  
16 there is a statement, "A new monthly production  
17 record of 4,586,263 pounds for total 246 group  
18 output was established during November." Do you  
19 see that?

20 A Yes.

21 Q What is the difference between the  
22 number -- the poundage figure quoted in the first  
23 paragraph and the poundage figure quoted in the  
24 last paragraph?

25 A 246 group would include pyranols and

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□

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1 pydrols -- the mixing operations.

2 Q The pyranols and pydrols were  
3 composed of Aroclors, correct?

4 A Yes.

5 Q Is the -- is the poundage quoted in  
6 the first paragraph of that memo included within  
7 the poundage quoted in the second paragraph?

8 A Yes.

9 Q Okay. So that the difference  
10 between the number in the first paragraph and the  
11 number in the last paragraph would be other  
12 materials that were blended in with the Aroclors?

004003

13                   A     No, the difference would include  
14 some of the Aroclors produced in the first -- on  
15 the first line and the first paragraph.  
16                   Q     Yes.  
17                   A     Part of that is included in this  
18 number of 4 million pounds.  
19                   Q     Right.  
20                   A     So some of it is counted twice  
21 within this. If we had a blend of 50/50 of TCB and  
22 an Aroclor, we would count all of that as  
23 production within that department which would be  
24 part of this group.  
25                   Q     Okay. So not all of the 3,473,896,

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□

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1 is included in the 4,586,263?  
2                   MR. KELLMEYER: Objection. I think you  
3 misstated the figure, you said 96 and I think it is  
4 06.  
5                   MR. RICCI: Oh, I'm sorry, it is 06. Off  
6 the record.  
7                   (Whereupon, at this point in the  
8 proceedings an off-the-record discussion was held,  
9 which by direction was not stenographically  
10 reported, after which the following proceedings  
11 were conducted:)

004204



12 Q (By Mr. Ricci) Let me try that one  
13 again. Not all of the 3,473,806 pounds quoted in  
14 the first paragraph would be included in the  
15 4,586,263 pounds in the last paragraph?

16 A All of that would be included in  
17 that 4 and-a-half million pounds, but also some of  
18 the other blends raw materials --

19 Q Oh, okay.

20 A -- would be included in that also.

21 Q Is there any other -- were there any  
22 Aroclors manufactured for use in pyranols or  
23 pydrols that would not be included in the 3,400,000  
24 and change figure in the first paragraph?

25 A No.

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□

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1 Q The pyranol and pydrol operations  
2 were just blending operations; is that correct?

3 A That's correct.

4 Q Now, you testified that the TCB and  
5 the TTCB were sometimes blended into Aroclors,  
6 correct?

7 MR. KELLMEYER: Objection.

8 Mischaracterizes his testimony to the extent they  
9 were never mentioned together.

10 Q (By Mr. Ricci) Is that true?

11 A The TTCB and the TCB, those two were

004205

12 never blended together.

13 Q Okay. So it was either Aroclors and  
14 TCB?

15 A And one or the other, yes.

16 Q And then we also saw that in some  
17 instances Xylene was blended with Aroclors?

18 A Yes.

19 Q Were there any other non-Aroclor  
20 materials that were blended with Aroclors?

21 A As a raw material?

22 Q Yes.

23 A No, I don't recall any other.

24 Q Did the pydrols contain anything  
25 other than Aroclors?

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□

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1 A Only a dye.

2 Q What was your understanding as to  
3 the final use of pydrol?

4 A I never had an understanding what  
5 the final uses were and -- oh, let me think about  
6 that for a minute.

7 Q Sure.

8 A Ask me the question again.

9 Q How about if I ask you a new  
10 question which is: Did you have any understanding

004206

11 as to what the final use of pydrol was?

12 A My understanding was it was a  
13 hydraulic fluid.

14 Q Did any of the departments at the  
15 Krummrich plant that you worked in use pydrol?

16 A I don't believe they did.

17 Q In Department 246 there was a  
18 Thermanol heat transfer unit; is that correct?

19 A Yes, I'm trying to place it. There  
20 was one, I guess.

21 Q Have you been able to place it?

22 A No. I know we had one.

23 Q Did that heat transfer unit use  
24 Aroclor containing heat transfer fluid?

25 A Yes.

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□

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1 Q Were there ever times when the heat  
2 transfer fluid in that unit needed to be replaced  
3 or changed out?

4 A I can't recall changing it out. I'm  
5 sure at some point it did.

6 Q Do you know what you did with the  
7 spent heat transfer fluid?

8 A No, I don't.

9 Q Do you have any recollection of ever  
10 putting it in the sewers?

004207

11                   A     Well, we would never do that, no.  
12                   Q     And why is that?  
13                   A     Because the material is stable  
14 enough that it could be used in other processes.  
15 It would not destroy -- it would still be within  
16 specifications for another use.  
17                   Q     So you would put it back into  
18 production?  
19                   A     We would sell it as a non-electrical  
20 fluid.  
21                   Q     Were there other departments at the  
22 Krummrich plant that used PCB containing heat  
23 transfer fluid?  
24                   A     I am almost sure that they were, but  
25 I don't know -- I'm almost sure that there were

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□

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1 other uses -- I mean, other departments that needed  
2 that for heat transfers, yes.

3                   Q     Do you recall what any of those  
4 departments were?

5                   A     I used it in Department 276, the  
6 ONP, as a heat transfer fluid.

7                   Q     Any others that you are aware of?

8                   A     I cannot recall any.

9                   Q     Were you aware of any other

004208

10 departments sewerage spent heat transfer fluid?

11 A Not at all.

12 MR. KELLMEYER: Objection. It's unclear  
13 when you say "any other". I don't believe that he  
14 has testified to any.

15 Q (By Mr. Ricci) You are right.

16 Were you aware of any departments at the Krummrich  
17 plant that sewerage spent heat transfer fluid?

18 A No.

19 (Whereupon the Reporter marked Deposition  
20 Exhibit Number 5 for identification as requested.)

21 Q (By Mr. Ricci) Mr. Brawley, let me  
22 show you Exhibit 5 to your deposition. This is a  
23 document with Bates number CER 010883.

24 A Okay. I have read it.

25 Q This is a November 6, 1969, memo

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□

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1 from yourself to a Mr. Clarence Buckley; is that  
2 correct?

3 A Yes.

4 Q Who is Mr. Buckley?

5 A He was in charge of our  
6 environmental department.

7 Q This document discusses release of  
8 approximately 50,000 pounds of Aroclors into the  
9 sewers from the blow tank. Do you have any

004209

10 recollection of this incident?

11 MR. KELLMEYER: Objection. I'm sorry, I  
12 withdraw the objection.

13 THE WITNESS: I don't recall the  
14 incident, no.

15 Q (By Mr. Ricci) Reviewing the  
16 document, do you have an understanding as to how  
17 the incident occurred?

18 A Estimate failure.

19 Q Do you know the route by which the  
20 Aroclors would have gotten from the blow tank into  
21 the sewers?

22 MR. KELLMEYER: Objection. Mr. Brawley  
23 has indicated he does not recall this incident.  
24 You can answer, if you know.

25 THE WITNESS: I just don't know.

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□

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1 Q (By Mr. Ricci) If the blow tank  
2 overflowed, would the material overflowing go into  
3 the trench sewers that you testified were in the  
4 process areas?

5 A They were located above the trench  
6 sewer.

7 Q Was the blow tank diked or otherwise  
8 contained in any way?

004210

9 A No.

10 Q Were releases from the blow tank a  
11 frequent occurrence at the plant?

12 A No, I don't recall that we had any  
13 frequent failures.

14 Q Why were you reporting this incident  
15 to Mr. Buckley, if you know?

16 A I would just think it's because he  
17 was in charge of the environmental group and by  
18 this time I am sure we were trying very hard to  
19 keep all the Aroclors out of the sewer.

20 Q Mr. Brawley, do you know where the  
21 flow into the sewers in Department 246 went once it  
22 left Department 246?

23 A No.

24 (Whereupon the Reporter marked Deposition  
25 Exhibit Number 6 for identification as requested.)

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□

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1 Q (By Mr. Ricci) Mr. Brawley, the  
2 memo that we have marked as Exhibit 5 is copied to  
3 Mr. Bratsch, Mr. McCutchan, and Mr. Molloy; is that  
4 correct?

5 A Yes, sir, it is.

6 Q Who is Mr. Bratsch?

7 A My recall of dates is not very good.  
8 Mr. Bratsch at one time was our plant manager. At

004311

9 this time, I have to say that he was our plant  
10 manager.

11 Q Okay. And now you had previously  
12 testified that with respect to the document that we  
13 marked as Exhibit 4, which was a November 6, 1969,  
14 memo from you to Mr. Molloy, you thought he was the  
15 plant manager?

16 A I don't remember the dates, but  
17 Molloy became the plant manager. He might have  
18 been a general superintendent who would be my boss'  
19 boss.

20 Q Your boss' boss?

21 A Yes.

22 Q Who was your boss?

23 A Well, I had a lot of bosses. Let's  
24 see, McCutchan -- at the time of this Exhibit 5,  
25 McCutchan was my boss.

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□

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1 Q I think I misspoke on the record yet  
2 again. I referred to Exhibit 4 as a November 6,  
3 1969, memo; and Exhibit 4 is, in fact, a December  
4 2nd, 1968, memo.

5 Mr. Brawley, let me show you a  
6 document that has been marked as Exhibit 6 to your  
7 deposition. And this is a document with Bates

0 4212



8 number CER 010872.

9 A I have read it.

10 Q This is a January 5, 1970, memo from  
11 yourself to Mr. Buckley; is that correct?

12 A Yes, it is.

13 Q This document discusses another  
14 release of Aroclors to the sewer from the blow  
15 tank; is that correct?

16 A Yes, it does.

17 Q Do you have any recollection of this  
18 incident?

19 A No, sir.

20 Q The memo says that the combined loss  
21 was approximately 18,000 pounds. Can you tell me  
22 how -- how many gallons of Aroclors that would be?

23 A I don't recall the pounds per  
24 gallon. The material is considerably heavier than  
25 water. Somewhere around 11 pounds per gallon.

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□

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1 Q Okay. So we could just calculate it  
2 from there?

3 A Yeah.

4 Q The cause of this incident appears  
5 to be the same as the cause of the incident that  
6 was identified in Exhibit 5; is that correct?

7 A I don't --

004213

8 MR. KELLMEYER: I think Mr. Brawley has  
9 indicated he doesn't recall the incident on Exhibit  
10 5 or Exhibit 6.

11 THE WITNESS: I just don't.

12 Q (By Mr. Ricci) Do you have an  
13 understanding of the causes described in each of  
14 those documents?

15 A The causes?

16 Q Yes. Do you understand what the  
17 memos say based upon your years of experience in  
18 the Aroclor department?

19 MR. KELLMEYER: In other words, you are  
20 asking him to read the memo, and from his reading  
21 of the memo whether he understands?

22 MR. RICCI: Correct.

23 THE WITNESS: I believe both of those are  
24 caused by the same failure.

25 Q (By Mr. Ricci) And that's a level

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1 controller?

2 A A level controller.

3 Q The document that we have marked as  
4 Exhibit 6 in the last paragraph refers to a project  
5 Number 3-1493-910 that when installed will  
6 eliminate losses to the sewers when the blow tank

004214

7 overflows. Do you see that?

8 A Yes.

9 Q Do you have any knowledge as to what  
10 that project was?

11 A Not at all.

12 Q Both Exhibit 6 and Exhibit 5 refer  
13 to losses from the continuous blow tank; is that  
14 correct?

15 A 5 was continuous blow tanks. They  
16 were both continuous blow tanks.

17 Q Were there more than -- was there  
18 more than one blow tank at the plant in Department  
19 246?

20 A Yes.

21 Q Was there more than one continuous  
22 blow tank?

23 A No.

24 Q How many blow tanks were there  
25 altogether?

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□

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1 A I would say three.

2 Q So there was one continuous and  
3 then --

4 A Two batch.

5 Q Two batch?

6 A Yeah.

004215

7 Q Did the batch blow tanks also have  
8 these level controllers on it?  
9 A I can't recall how we did that.  
10 Q Were these blow tanks open top --  
11 I'm sorry, go ahead.  
12 A They did not have automatic level  
13 controls.  
14 Q Okay. How was the amount of  
15 material into the blow tank controlled in the batch  
16 blow tanks?  
17 A Well, level gauges on the side of  
18 the tanks where the operator could read what the  
19 level was in the tank, to make sure he had enough  
20 room to transfer another batch -- chlorinator batch  
21 into the blow tank.  
22 Q So it was strictly a manual system?  
23 A Strictly manual, yes.  
24 Q Was the continuous blow tank  
25 strictly automated?

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□

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1 A I believe so.  
2 Q Were these blow tanks open top  
3 tanks, or were they enclosed tanks?  
4 A They were all enclosed.  
5 Q Was there some sort of an overflow

004216

6 line at the top of the tank from which overflows  
7 would be released?

8 A I just can't answer that. I just  
9 don't know.

10 (Whereupon the Reporter marked Deposition  
11 Exhibit Number 7 for identification as requested.)

12 Q (By Mr. Ricci) Mr. Brawley, let me  
13 show you Exhibit 7 to your deposition. This is a  
14 document with Bates number 010858 and ask you to  
15 take a look at it.

16 A I have read it.

17 Q This is a March 20, 1970, memo from  
18 Mr. McCutchan to Mr. Buckley; is that correct?

19 A Yes, it is.

20 Q And you are copied on this document?

21 A Yes.

22 Q There is a Mr. Dalton copied on this  
23 document. Do you know who Mr. Dalton is?

24 A He was my general superintendent.

25 Q Again, your boss' boss?

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□

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1 A That's correct.

2 Q This document refers to a release of  
3 38,000 pounds of Aroclors to the sewers from the  
4 blow tanks; is that correct?

5 A That's correct.

004217

6 Q And this is again the continuous  
7 blow tanks?

8 A Yes.

9 Q The cause of this release to the  
10 sewers is different than the cause of the first two  
11 releases that we talked about today, correct?

12 A That's correct.

13 Q Do you understand the explanation  
14 that is given here as to the cause of this release?

15 A The fact that the operator left the  
16 valve, as I can understand, and the alarm failed.

17 Q What was the alarm designed to do?

18 A It's a high level alarm. When  
19 material got to a preset high in the vessel and the  
20 alarm was to sound in the control room and a light  
21 would come on -- an alarm and a light, so the  
22 operator would know something was wrong and go and  
23 check what the problem was.

24 Q Okay. And do you have any  
25 recollection of this incident?

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□

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1 A Not at all.

2 Q But your understanding of what you  
3 see written in this memo is that that alarm failed?

4 A Yes.

004218

5 Q Now, in the earlier memos that we  
6 looked at relating to releases from the blow tank  
7 into the sewers, there was a reference to the level  
8 controller?

9 A Yes.

10 Q What did the level controller do?

11 A The level controller will control  
12 the flow of material either into or out of a  
13 vessel.

14 Q Is it a situation where the level in  
15 the vessel rises -- the level controller  
16 automatically shuts off the flow into the vessel?

17 A It could work that way, yes.

18 Q Is that how the level controller  
19 worked in the blow tank?

20 A I don't know. A level controller  
21 generally opens or closes a valve, depending on the  
22 height or the height of the material.

23 Q Sort of like a float in a toilet  
24 tank?

25 A Yes.

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1 Q There is a statement in the second  
2 paragraph of Exhibit 7 after the second occurrence  
3 I think referring to the second spill from this  
4 tank, the controller was put on a two week PM

004919  
615400

5 schedule. What is PM?

6 A Preventive maintenance.

7 Q You had testified earlier that you  
8 thought that the continuous blow tank was a  
9 strictly automated piece of equipment; is that  
10 correct?

11 A The best that I can recall, yes.

12 Q If the continuous blow tank was  
13 automated, why would the department operator be  
14 required to close a valve that was apparently left  
15 open?

16 A I don't know that.

17 Q Do you recall there being any  
18 repercussions from these three releases from the  
19 blow tank into the sewers in -- within a four  
20 and-a-half month period?

21 MR. KELLMEYER: Objection. He has  
22 indicated he doesn't recall specific occurrences.  
23 If you -- I don't know how he can testify about  
24 repercussions, but nevertheless I will let him  
25 answer it.

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1 THE WITNESS: Be more specific.

2 Repercussions to who?

3 Q (By Mr. Ricci) Repercussions, I

004220



4 guess, to people in the department from either  
5 people in the environmental department or superiors  
6 in the plant regarding these releases to the sewers  
7 at a time when the company was trying to limit its  
8 release to the sewers?

9 A Yeah, I cannot recall this specific  
10 incident; however, if operators made frequent  
11 errors, there was a reprimand system that we went  
12 through.

13 Q Were losses to -- Aroclor losses to  
14 the sewers in Department 246 reported to anyone  
15 with environmental responsibilities prior to the  
16 time that the company initiated its program to  
17 reduce its discharge of Aroclors into the sewers?

18 A I don't understand who you are  
19 referring to, though.

20 Q Let me try again. Was there any  
21 kind of standing policy in Department 246 to report  
22 to the people with environmental responsibilities  
23 the releases of Aroclors into the sewers?

24 A At some point we would notify the  
25 treatment plant that there was some amount of

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1 Aroclor in the sewer that is different than normal.

2 Q Was that sort of a standing practice  
3 in Department 246?

004221

4           A     Well, I don't know if you would say  
5 it was a standing practice because it was not a  
6 frequent occurrence.

7           Q     Is that a practice that was followed  
8 even prior to the time that the company initiated  
9 its program to reduce its discharges of Aroclors to  
10 the sewers?

11           MR. KELLMEYER: I just object to the  
12 characterization of the way in which you  
13 characterized that question. I don't think there  
14 has been any testimony whether the company  
15 initiated a specific program or whether the company  
16 always wished to have reduced losses of Aroclors to  
17 the sewers.

18           Q     (By Mr. Ricci) Well, Mr. Brawley,  
19 I think -- let me ask you again: I think we did  
20 testify to it, but I will ask you again. Do you  
21 recall a specific program either in the late '60s  
22 or early '70s where the company specifically  
23 embarked on a policy to try and reduce the amount  
24 of Aroclors that were going into the sewers?

25           A     Over a period of time we put ever

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1 increasing emphasis on trying to reduce or  
2 eliminate sewer losses.

004222

3 Q Was that -- was that program or were  
4 those efforts in place when you first came into  
5 Department 246?

6 A No, they were not.

7 Q So they started some time after you  
8 were in Department 246?

9 A Yes.

10 Q Prior to the time that those efforts  
11 began, was there any kind of a policy or procedure  
12 that you would report releases of Aroclors into the  
13 sewers to the environmental folks at the plant?

14 A Not that I recall.

15 (Whereupon the Reporter marked Deposition  
16 Exhibit Number 8 for identification as requested.)

17 Q (By Mr. Ricci) Mr. Brawley, let me  
18 show you a document that's been marked as Exhibit 8  
19 to your deposition. It's a document with Bates  
20 number CER 010152.

21 A Okay.

22 Q This is a January 2, 1970, memo from  
23 yourself to Mr. Dalton; is that correct?

24 A Yes, it is.

25 Q Do you have any recollection of this

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1 document?

2 A No, I do not.

004223

3 Q On the bottom where it says annual  
4 production records, there appears to be handwritten  
5 in "new and old." Do you see that?

6 A Yes.

7 Q Is that your handwriting?

8 A I couldn't answer that. I don't  
9 know if that is mine or not.

10 Q Is this document typical of the kind  
11 of document that you prepared when you were foreman  
12 in Department 246?

13 A Yes, it is.

14 Q Do you believe the numbers in this  
15 document to be accurate based upon your standard  
16 practices that you employed while you were foreman?

17 A Yes.

18 Q In the paragraph in the middle of  
19 the page that begins "total production, "do you see  
20 that?

21 A Yes.

22 Q There is a reference to Department  
23 259. What is that?

24 A Pyranols.

25 Q Pyranols was a separate department?

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1 A As far as recordkeeping goes, yes.

004224

2 Q Was it also under your jurisdiction  
3 as foreman of Department 246?

4 A Yes, it was.

5 Q Focus for a second on the annual  
6 production records that are listed at the bottom of  
7 the memo. There appear to be four lines there,  
8 there is Aroclors, the total pyranols, the pydrols,  
9 and the total group production. And the first  
10 three items don't appear to add up to give you the  
11 fourth item.

12 A Yes.

13 Q Should they?

14 A I don't know. Just looking at it I  
15 thought they would. As I look at it, I would  
16 expect them to total up to that number. I don't  
17 know what has been left out. One thing that could  
18 be left out would be this refers to Pydrol 280.

19 Q Right.

20 A There are other pydrols.

21 (Whereupon the Reporter marked Deposition  
22 Exhibit Number 9 for identification as requested.)

23 Q (By Mr. Ricci) Mr. Brawley, let me  
24 show you Exhibit 9 to your deposition. This is a  
25 document with a Bates number CER 010174 and I ask

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1 you to take a look at it.

004225

2                   A     I did.

3                   Q     Okay. This is a memo that you wrote

4 to a Mr. A.E. Liesy?

5                   A     Liesy.

6                   Q     Who is Mr. Liesy?

7                   A     He was my general superintendent.

8                   Q     What is being reported in this

9 document?

10                  A     Essentially production and yields.

11                  Q     Under the heading "Aroclors," you

12 have got a -- is that the symbol for Biphenyl

13 before the word yield?

14                  A     Yes, it is.

15                  Q     Biphenyl yield of 100.65 percent.

16 What does that mean?

17                  A     Yes. That means there is an error

18 in inventory at some point. It's impossible to get

19 more than 100 of anything; however, another month

20 prior or after that would probably have been

21 somewhat less than the standard.

22                  Q     So these monthly yields are just

23 calculated based upon the beginning of the month

24 and end of the month inventories --

25                  A     That's correct.

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1                   Q     -- for raw material and end product?  
2                   A     And finished product and goods in  
3 process.  
4                   Q     So it's not -- it's more of an  
5 accounting or a mathematical exercise, it's not  
6 actually figuring out how much -- well, let me  
7 withdraw that.  
8                   MR. RICCI: Off the record.  
9                   (Whereupon, at this point in the  
10 proceedings an off-the-record discussion was held,  
11 which by direction was not stenographically  
12 reported, after which the following proceedings  
13 were conducted:)  
14                   (Whereupon the Reporter marked Deposition  
15 Exhibit Number 10 for identification as requested.)  
16                   Q     (By Mr. Ricci) Mr. Brawley, let me  
17 show you Exhibit 10 to your deposition. This is a  
18 document with Bates number CER 013838.  
19 Mr. Brawley, this is an October 16, 1973, memo from  
20 Mr. Buckley to Mr. Liesy and you appear to be  
21 copied on this document; is that correct?  
22                   A     Yes, I was.  
23                   Q     In the -- on the first page there is  
24 a heading with the word "Details." Do you see  
25 that?

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1                   A     Yes.

2                   Q     And then under Subparagraph A it  
3 says, "Three more samplers will be installed at  
4 Points 2A, 1B, and 2B." Do you see that?

5                   A     Yes.

6                   Q     Do you have any idea what those  
7 sampling points refer to?

8                   A     No, it is not within my department.

9                   Q     How do you know that?

10                  A     I knew that they sampled -- let me  
11 think just a minute.

12                  Q     It may be of some assistance to you  
13 if you look at -- on the second page of this memo  
14 towards the middle of that page it says, "Reasons  
15 for the initial placement of three additional  
16 samplers." In the interest of full disclosure,  
17 there is some discussion there also of these  
18 locations.

19                  A     I don't know what those locations  
20 are. I do know at some point they had a sampling,  
21 a continuous sampler, on the effluent from my  
22 department. I don't know what number that would  
23 be. I don't know what all of these are.

24                  Q     But you do recall there being a  
25 sampling point downstream from your department?

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1           A     Yes.

2           Q     Was that sampling point sampling  
3 anything other than effluent from your department?

4           A     I don't believe it was.

5           Q     Can you point out on the map the  
6 approximate location of that sampling point?

7           A     I believe it was in this area over  
8 here someplace.

9           Q     You know what, Mr. Brawley, that may  
10 be an unfair question, too, because this is a 1964  
11 sewer map. Let me see if we have got a more  
12 recent -- because the memo that we are looking at  
13 is dated 1973. And I'm thinking that I may have a  
14 map closer in time to that time period.

15                 (Whereupon the Reporter marked Deposition  
16 Exhibit Number 11 for identification as requested.)

17           Q     (By Mr. Ricci) Mr. Brawley, let me  
18 show you a map that is marked Exhibit 11 to your  
19 deposition. This map has Bates number CER 110759.  
20 And although it's kind of obscured on this  
21 particular copy, I will represent to you that this  
22 map was drawn in 1971 and I believe it was approved  
23 or signed off by the project engineer in 1972.

24           MR. RICCI: And, Joe, we can go back and  
25 confirm that, but I'm pretty sure those are the

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1 dates there.

2 Q (By Mr. Ricci) And with reference  
3 to this map that we have marked as Exhibit 11, I'm  
4 wondering if you could show me where you understood  
5 the sampling point to be that sampled the effluent  
6 from Department 246.

7 A I believe this would be 246 here.

8 Q Right. And it's labeled as 246,  
9 correct?

10 A Yes. This implies that the sewer  
11 line would be right on the road or next to the  
12 road. I guess this is the road that goes -- that  
13 would -- that went in front of the department.

14 Q What road was that, do you recall?

15 A No, I don't.

16 MR. KELLMEYER: Can you identify the  
17 sampling point from this map?

18 THE WITNESS: No, I can't. I want to  
19 think it's in this area right here. I don't recall  
20 what this is over here.

21 Q (By Mr. Ricci) Okay. Do you  
22 recall whether the effluent from Department 246  
23 flowed to the east or to the west once it exited  
24 the plant?

25 A I think it went to the west.

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1           Q     Okay. Now this building, CS, is  
2 that part of Department 246?  
3           A     No, that is a separate department.  
4           Q     What department was that?  
5           A     254.  
6           Q     What did they make there, do you  
7 recall?  
8           A     No, I don't.  
9           Q     Okay. So you just aren't sure where  
10 the sampling point was?  
11          A     I am not sure looking at this map,  
12 no.  
13          Q     You were doing better with the other  
14 map, but I want to be fair. Did you or your staff  
15 have any involvement in the sampling efforts?  
16          A     None at all.  
17          Q     That was done by the environmental  
18 people?  
19          A     Yes, it was.  
20          Q     Mr. Brawley, were -- are you aware  
21 of the composition of the Thermanol heat transfer  
22 fluids that were manufactured in Department 246 --  
23 what Aroclors they had in them or what Aroclors  
24 they consisted of?  
25          A     Most of them was 1242 and 1248 or

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004231

1 1242 and 1254.

2 Q They were a blend of those Aroclors?

3 A Yes, that is the best I recall.

4 Q So it was 1242 and 1258?

5 A And 1248.

6 Q 1248.

7 A And then 1242 and 1254.

8 MR. RICCI: That's all I have.

9 MR. KELLMEYER: We won't waive signature.

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1 STATE OF ILLINOIS            )  
                                      ) SS.  
2 COUNTY OF MADISON         )

3

4                   I, MARY E. WALKER, CSR, RPR, Notary  
5 Public in and for the County of Madison, State of  
6 Illinois, do hereby certify that pursuant to  
7 stipulation there appeared before me on the 15th  
8 day of February, 1995, at the law firm of Coburn &  
9 Croft, 120 W. Main Street, Belleville, Illinois,  
10 VIRGIL BRAWLEY, who was first duly sworn by me to  
11 testify to the whole truth of his knowledge  
12 touching the matter in controversy aforesaid, so  
13 far as he should be interrogated concerning the  
14 same; that he was examined and examination was  
15 taken down in shorthand by me and afterwards  
16 transcribed upon the typewriter.

17                   IN WITNESS WHEREOF, I have hereunto set  
18 my hand and affixed my notarial seal on this  
19 \_\_\_\_\_ day of February, 1995.

20

21

\_\_\_\_\_  
Mary E. Walker, CSR, Notary Public  
Notary Public, CSR No. 084-003322

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